Between famine and malnutrition: Spatial aspects of nutritional health during Ghana's long twentieth century, c. 1896-2000

John Daniel Nott

Submitted in accordance with the requirements for the degree of Doctor of Philosophy

University of Leeds, School of History

September 2016

The candidate confirms that the work submitted is his own and that appropriate credit has been given where reference has been made to the work of others.

ACKNOWLEDGEMENTS

It is a great privilege to be in a position to even undertake a PhD and I have been helped emotionally, intellectually and financially by many more people that I have space to thank.

As my supervisor for this project and for the two that came before, Shane Doyle has been a constant source of support. His advice and patience have always proved invaluable and I am hugely grateful. The other academic and support staff at Leeds, and especially the postgraduate community, have made the School of History a happy home for what now feels like a very long time. It will be strange to leave. The recent contingent of Africanist PhD students – Rosie Thornley, Nikki Ginsburgh, Lucy Taylor and Josh Doble – have proved valuable sounding boards and even better company. Vincent Hirribarren sparked my interest in GIS as well as the potential of digital humanities. Alexander Moradi gave sage advice regarding historical anthropometry and generously allowed me use of his Gold Coast Regiment data. Will Jackson, Tom Scott-Smith, Alice Wiemers and Harold Alderman all also gave valuable suggestions along the way.

During a short fellowship in Pennsylvania State University's Population Research Institute, Stephen Matthews and other staff and students cultivated my interest in the possibilities of modern demography. My tutors and classmates on quants courses at the University of Michigan and at the Max Planck Institute for Demographic Research in Rostock helped further these interests. It is to my detriment that I have not been able to fully use the training gained from these experiences during this project but I look forward to doing so in the future. The staff at the Library of Congress and the other Kluge Fellows resident at the library during my short stay provided an enjoyable and intellectually stimulating environment in Washington. In fact, library and archival staff in the UK, the US and especially in Ghana have always been helpful and patient despite endless requests.

At the University of Ghana, Frank Nyame, Matilda Steiner-Asiedu, Etienne Aucouturier, Selasi Woanyah and Obed Harrison all gave me their time and attention and I am very grateful. It was privilege to speak with Fred Sai, Stephen Addae, Joseph Oliver-Commey and Rosanna Agble in Accra too, their advice has shaped this research. In Tamale, my deepest thanks are to Salifu and Mary Saaka for opening their home to me – I was very happy there. Stephen Ali provided a great deal of help and friendship in Tamale, as did

Mohammed Attiah and Selina Aboyinga. In Kumasi, Rudolf Steiner, Ekow Mankatah and Abena Oteng all provided valuable assistance.

Various grants from the ESRC, the AHRC, the University of Leeds, the Worldwide Universities Network, the Royal Historical Society and the US National Institute of Child Health and Human Development have enabled me to live, travel and train in pursuit of this study. I am hugely grateful for the faith these organisations have shown in me.

I will always be especially thankful for my family and friends. My dad sparked my interest in history when I was very young and mum made me study when I would rather have been doing anything else. I would not have even considered university had it not been for my parent's encouragement and sacrifice. Over the course of this project I have made firm new friends and lent heavily on old ones. Those that have put me up and put up with me have shaped my thinking in many more ways than I know.

ABSTRACT

This is a study of hunger and malnutrition in distinct spaces and during a long period of uniquely dramatic economic fluctuation. Focusing on Ghana's often hungry Northern savannah, its wealthy and food secure Southern forest and its youthful, expanding cities, this study seeks to explain how hunger and malnutrition form in proximate yet readily contrasted environments. Resulting from failures of domestic reproduction as well as failures of local food economies, the history of malnutrition is, in essence, a history of food and family.

As a conscious concern, hunger played a mediating role in the varied and rapidly changing livelihoods seen across Ghana. Anthropology and demography give insight into the weight of nutrition in precolonial, nineteenth-century contexts as well as the effects of colonial integration. Colony-wide labour and food markets encouraged new forms of food insecurity and new modes of survival, something seen particularly clearly in the trend of north-south migration.

As a less-conscious concern than hunger, nutritional health was also partially directed by the medical environment and by consensuses regarding good and bad nutrition. Born as an arm of imperial rule which sought to override indigenous understandings of health, nutritional science was both politically reactive and scientifically reductive, reflecting Western concerns regarding Africa and Western understandings of nutrition long into independence.

The process of capitalist development also promoted the devaluation of domestic reproduction, with wealth and poverty determined by cash-income rather than access to human capital. This transition preceded the gender conflict and higher-risk forms of childrearing which undermined nutrition security across the country. Recently reinvigorated by the neoliberal turn of the late twentieth century, this process helps explain the endurance of malnutrition in spite of economic growth. The pursuit of these ends also helps explains postcolonial hunger as market dependency fostered epidemic malnurtition during the market collapse of the 1970s and early 1980s.

CONTENTS

LIST OF TABLES, FIGURES AND MAPS

TABLES

FIGURES

MAPS

LIST OF ABBREVIATIONS

ADB	Agricultural Development Bank
ADAR	*Agricultural Department Annual Report*
AFRC	Armed Forces Revolutionary Council, Ghana
CMAM	Community-based Management of Acute Malnutrition
CMB	Cocoa Marketing Board, Ghana
CPP	Convention People's Party, Ghana
CRS	Catholic Relief Services
EDAR	*Education Department Annual Report*
ERP	Economic Relief Programme, Ghana
FAD	Food Availability Decline
FDC	Food Distribution Corporation, Ghana
FPC	Food Production Corporation, Ghana
(G)DHS	(Ghana) Demographic Health Survey
GLSS	Ghana Living Standards Survey
GNTC	Ghana National Trading Corporation
HMSO	Her Majesty's Stationary Office
IPPF	International Planned Parenthood Federation
LSHTM	London School of Hygiene and Tropical Medicine
LSMS	Living Standards Measurement Study
MDAR	*Medical Department Annual Report*
MGRS	Multicentre Growth Reference Study
MICS	Multiple Indicator Cluster Surveys
MRC	Medical Research Council, UK
MUAC	Mid-Upper Arm Circumference
NCHS	National Centre for Health Statistics, US
NDC	National Democratic Congress, Ghana
NGO	Non-Governmental Organisation
NLC	National Liberation Council, Ghana
NPP	Northern People's Party, Ghana
NRC	National Redemption Council, Ghana
PAG	Protein Advisory Group, UN
PAMSCAD	Programme of Action to Mitigate the Social Costs of Adjustment
PEM	Protein-Energy Malnutrition
PIP	Public Investment Programme
PNDC	Provisional National Defence Council, Ghana
PP	Progress Party, Ghana
PRAAD/A/K/T	Public Records and Archives Administration Department, Accra, Kumasi or Tamale, Ghana
RH	Rhodes House Library, Oxford
RUTF	Ready to Use Therapeutic Food
SAP	Structural Adjustment Programme
SFC	State Farms Corporation, Ghana
SMC	Supreme Military Council, Ghana
TNA	The National Archives, Kew
UGFCC	United Ghana Farming Cooperative Council
WL	Wellcome Library, London

NOTES ON TERMINOLOGY

Asante/Ashanti	'Asante' refers to the historical Asante kingdom or, less precisely, to those areas which share a cultural, ecological and economic homogeneity defined by Akan culture, forest agriculture and matrilineal inheritance. When discussing the administrative region of modern Ghana, 'Ashanti' or 'Ashanti Region' are used.
Gold Coast Colony	To avoid confusion, the colonial administrative area comprising the southern stretch between the Atlantic and Asante, the 'Gold Coast Colony', is rarely referred too. Where it is 'Colony' refers to the administrative area while 'colony' refers to the entire Gold Coast.
Gold Coast/Ghana	I was once told that 'colonial Ghana' cannot be the correct terminology since Ghana was never colonised. The Gold Coast is used to refer to Ghana when under colonial rule.
North/Northern	When discussing the northern three regions of Ghana, the North or Northern are capitalised and contrasted with the South or Southern. The administrative 'Northern Region' is recognised as distinct and specified when used.

0. INTRODUCTION

> 'Experts now tell me that I must call it Protein-Energy-Malnutrition, but never mind; probably they will change it again.'[1]

This was the withering response of the pioneering nutritionist and colonial medical officer, Hugh Trowell, to the fluctuating academic landscape of malnutrition in Africa. Considering that Trowell spent much of the 1940s agonising over whether 'kwashiorkor' was an appropriate name for the severe protein deficiency initially described in medical literature emanating from the Gold Coast, now Ghana, he was poorly placed to bemoan specificity when it came to the problem of malnutrition. Perhaps, after forty years, Trowell was simply exasperated with elusive definitions. However, it is the complexity of the problem which led to consternation over the name, a problem perhaps even more complex now than it was in late-colonial Africa. Although today we might recognise that inadequate or inappropriate feeding was responsible for 3.1 million, or 45 percent, of child deaths around the world in 2011, we still cannot fully explain the biology behind each of these individual tragedies, let alone the social or economic mechanisms at play.[2] It is, then, precisely this elusive definition which makes malnutrition such an enigmatic subject and such a pressing concern.

Although recognising the human cost of faulty nutrition, historians have also struggled to grapple with its complexities. Largely avoiding any such specificity, John Iliffe, in his comprehensive 1987 study of African poverty, asserted that the main food-health concern of the African poor shifted from famine to malnutrition part-way through the colonial period.[3] Beginning with this assertion, this thesis in part intends to probe its validity, its universality and to detail the specifics of such a transition. However, it is already clear that, if sub-Saharan Africa was indeed caught in this process, its progression was never uniform. Although excess mortality has declined, severe famines have continued to ravage Ethiopia, Nigeria, the Sahel, the Sudan and the horn of Africa since the middle of the twentieth century. Less severe, isolated periods of want have occurred throughout the continent. Many, or maybe most, have not made international

[1] H.C. Trowell, 'The Beginning of the Kwashiorkor Story in Africa', *Central African Journal of Medicine*, 21.1 (1975), 1–5 (p. 5).
[2] Robert E. Black and others, 'Maternal and Child Undernutrition and Overweight in Low-Income and Middle-Income Countries', *The Lancet*, 382.9890 (2013), 427–51.
[3] John Iliffe, *The African Poor: A History* (Cambridge: Cambridge University Press, 1987), p. 160.

news. In other areas, however, there is scant recorded history of hunger. For instance, in this author's recent study of nutrition in the fertile forest kingdom of Buganda, southern Uganda, famine was conspicuously absent, even in the nineteenth century, while protein deficiency and nutritional inadequacy appear to have long been endemic.[4] Academic concentration on the history of food and famine in the hungrier parts of Africa has, however, overlooked areas like Buganda and has downplayed the significance of malnutrition in non-crisis environments. Focussing on flashpoints of nutritional crisis has also failed to countenance the processes which led to nutritional illness in times and places less affected by such dramatic manifestations of dearth.

By extending the history of the hungry beyond periods of particular hunger, this study will provide some narrative to the changing relationship between food and health. By broadening the geographic focus, this study will offer the chance to properly integrate the history of nutrition across some of the continent's diverse spaces. Ghana presents a particularly apposite site for such an investigation. Stretching from the arid sub-Sahelian savannah, through malnutrition-prone but food-secure forests, Ghana straddles two very distinct food environments and provides the spatial scope to see a fuller history of nutrition and health in the twentieth century. Taking the forest areas surrounding the precolonial kingdom of Asante and the poorly-developed and often hungry Northern savannah as the centres of investigation, Ghana's environmental diversity grants ample room for a comparative study which is still framed within the readily comparable history of an ostensibly unified polity. Extreme fluctuations in the Ghanaian macroeconomy also provide clearly contrasted historical environments and a valuable space in which we can investigate the relationship between nutrition and the broad economic patterns which have defined Africa's recent history. As the wealthiest dependency in British tropical Africa, an independent state which experienced an exceptional postcolonial decline, and the recent posterchild of IMF-led 'neoliberal' development, Ghana also permits an unusually sharp framework for longitudinal study.

In general, the bounds of the long twentieth century have left Ghana caught – both spatially and temporally – between famine and malnutrition. In 1896, formal colonial control was extended beyond the Asante forest and into what became the Gold Coast's Northern Territories, shoring up the boundaries of a new political and economic space. In 2000, the general election saw the nation's first transfer of power from one democratically-elected regime to another. If Amartya Sen's contention – that 'no famine

[4] John Nott, 'Malnutrition in a Modernising Economy: The Changing Aetiology and Epidemiology of Malnutrition in an African Kingdom, Buganda c.1940–73', *Medical History*, 60.02 (2016), 229–249.

has ever taken place … in a functioning democracy' – is indeed correct, then the transition to democracy may also have brought Ghana beyond the threat of famine and away from some of the conceptual questions posed by this study.[5] Although democratic process might offer insurance against frank starvation malnutrition has endured. Today, however, protein deficiency and undernutrition combine with emerging epidemics of obesity, diabetes, heart disease and diet-related cancer. While the formative political landscape of Africa's long twentieth century is worth viewing in isolation, it also reflects what came before and bears relevance for what has since followed.

None of the changes of twentieth-century Africa were more dramatic than colonisation and the ascendency of colonial capitalism. Although indigenous forms of profit-producing private industry were common throughout the Gold Coast in the nineteenth century, greater integration of African and imperial commodity and capital markets further induced the buying and selling of land and labour while stimulating the slow subsidence of subsistence agriculture and the gradual growth of market-dependency.[6] However, imperial involvement in emerging African market economies – through interference with land tenure or monopolies on marketing, for instance – also stymied the development of a more extensive and more efficient cash-crop market or an indigenous capitalist class.[7] Simplistic classifications of African colonies suggest that this left the Gold Coast as a 'peasant' colony in which, and unlike 'settler' colonies, the vast majority of land remained under African ownership.[8] Colonial promotion of small-scale indigenous producers underlined the environmental advantage and efficiency of the forest economy. Agricultural and economic growth emanated mainly from Asante, which grew to quickly become the centre of global cocoa production. Much of the labour required for economic expansion was derived from the Northern Territories which, in the official mind, was an unproductive and unprofitable backwater. Unlike in Buganda, whose history might otherwise be analogous to that of Asante, it was further south, along the coast, which saw the majority of the infrastructural investment and development initiatives which also act as a boon to health. Still, this important distinction allows us to view the food, nutrition and health effects of commercialism and

[5] Amartya Sen, *Development as Freedom* (Oxford: Oxford University Press, 1999), p. 16.
[6] See, for the nineteenth century, Gareth Austin, '"No Elders Were Present": Commoners and Private Ownership in Asante, 1807-96', *The Journal of African History*, 37.1 (1996), 1–30.
[7] See, for Ghana, Geoffrey Barry Kay, *The Political Economy of Colonialism in Ghana: A Collection of Documents and Statistics, 1900-1960* (Cambridge: Cambridge University Press, 1972); Kathryn Firmin-Sellers, *The Transformation of Property Rights in the Gold Coast: An Empirical Analysis Applying Rational Choice Theory* (Cambridge: Cambridge University Press, 1996).
[8] See, Gareth Austin, 'African Economic Development and Colonial Legacies', *International Development Policy*, 1 (2010), 11–32.

cash-crop agriculture in greater isolation. Perhaps more importantly, the merger of these distinct environments under colonial government allows us to consider the impacts of nation-building and market integration on food security, diet and nutrition-related health. Although not attempting to write an economic history, this study does hope to supplement the recent 'renaissance' of African economic history.[9] As a basal determinant of 'human capital' – broadly understood as the economic value proffered by an individual's skills, knowledge or capacity to labour – nutrition is a particularly important gauge for understanding past economic patterns. It may prove that a more considered analysis of food and nutrition grants insight for the further development of these trends.[10]

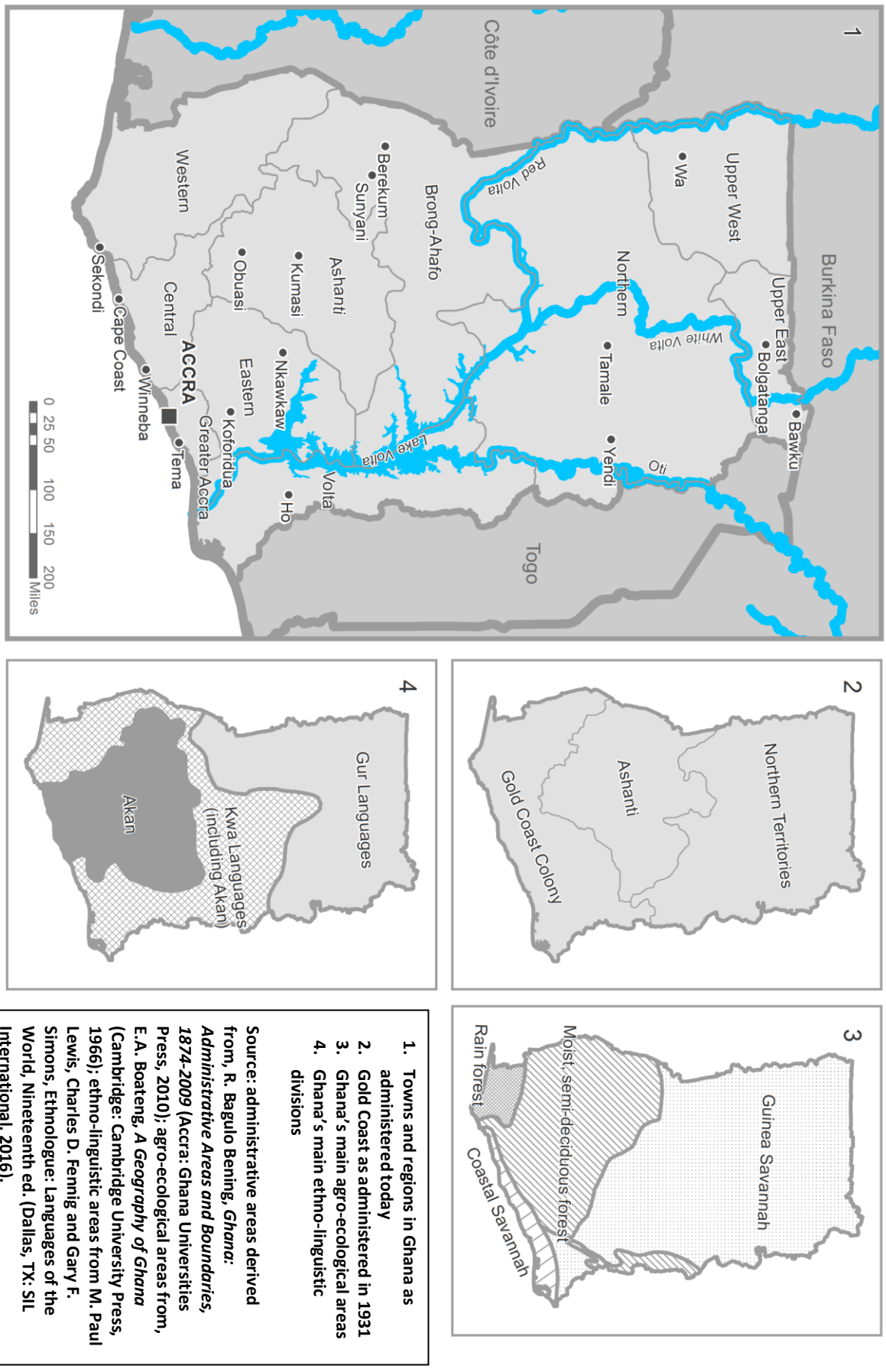
While the economic developments of the twentieth century had various and discrete effects on nutrition across the country, Ghana's spatial diversity extends far beyond its twentieth century. Asante and Ghana's Northern savannah – administered today as the Upper East, Upper West and Northern Regions – are as culturally, economically and historically divergent as any two areas within a modern nation-state [Map 0.1]. The North is made up of a number of ethnic groups and rival precolonial kingdoms and, although distinct in certain respects, these communities are joined by a depth of shared history suggested by linguistic commonality. The North's grain-crop economies are fed by a single rainy season and supplemented by animal wealth, while patrilineal social structures and the greater influence of Islam speak to its trans-Saharan cultural orientation. Deprived of human capital investment during the colonial period and eventually becoming something of a labour reservoir for the rest of the colony, Northern history unifies further into the twentieth century. Asante, on the other hand, was the regionally preeminent power in the immediate precolonial period and a centre of global gold production between the eleventh and seventeenth centuries. Gold wealth combined with the kingdom's fertile forest ecology to allow for a remarkable degree of food

[9] See, for instance, Gareth Austin, 'The "reversal of Fortune" Thesis and the Compression of History: Perspectives from African and Comparative Economic History', *Journal of International Development*, 20.8 (2008), 996–1027; Ewout Frankema, 'The Colonial Roots of Land Inequality: Geography, Factor Endowments, or Institutions?', *The Economic History Review*, 63.2 (2010), 418–51; Morten Jerven, 'African Growth Recurring: An Economic History Perspective on African Growth Episodes, 1690–2010', *Economic History of Developing Regions*, 25.2 (2010), 127–54; The narrative of this new trend is documented here, Gareth Austin and Stephen Broadberry, 'Introduction: The Renaissance of African Economic History', *The Economic History Review*, 67.4 (2014), 893–906.

[10] This is something which we can already see at work in recent anthropometric histories. See, Alexander Moradi, 'Towards an Objective Account of Nutrition and Health in Colonial Kenya: A Study of Stature in African Army Recruits and Civilians, 1880–1980', *The Journal of Economic History*, 69.03 (2009), 719–754; Gareth Austin, Joerg Baten, and Bas Van Leeuwen, 'The Biological Standard of Living in Early Nineteenth-Century West Africa: New Anthropometric Evidence for Northern Ghana and Burkina Faso', *The Economic History Review*, 65.4 (2012), 1280–1302.

security, a centralised and expansionist political system, more varied modes of production and a cultural homogeneity defined by Akan language and matrilineal inheritance. Although the ever expanding urban world may also be thought of as distinct again, it was ultimately a uniquely Southern phenomenon. Tied to forest industry and, later, to the Atlantic orientation of the colonial economy, urbanisation required a degree of economic security and centralisation which was absent from savannah societies in this part of West Africa. Adjacent to forts, ports, colonial administrations and infrastructure projects, and with high population densities and marketised food economies, nutrition in urban Ghana may be seen as an exaggerated culmination of similar trends which were at play in the surrounding forests.

Map 0.1: Summary maps of Ghana



1. **Towns and regions in Ghana as administered today**
2. **Gold Coast as administered in 1931**
3. **Ghana's main agro-ecological areas**
4. **Ghana's main ethno-linguistic divisions**

Source: administrative areas derived from, R. Bagulo Bening, *Ghana: Administrative Areas and Boundaries, 1874-2009* (Accra: Ghana Universities Press, 2010); agro-ecological areas from, E.A. Boateng, *A Geography of Ghana* (Cambridge: Cambridge University Press, 1966); ethno-linguistic areas from M. Paul Lewis, Charles D. Fennig and Gary F. Simons, Ethnologue: Languages of the World, Nineteenth ed. (Dallas, TX: SIL International, 2016).

Given the degree of spatial and historical diversity in Ghana, it is little surprise that nutrition is largely dependent upon specific environmental and historical conditions. However, detailing nutritional change is rather more difficult and first requires some discussion of nutritional science. When malnutrition is discussed, at least in the African context, it is kwashiorkor or marasmus which are usually cited. Marasmus, deriving from the Greek 'to wither', describes the physiological process of starvation. Generally occurring in young children, marasmus is characterised by the progressive wasting of subcutaneous tissue and muscle as a result of inadequate calories and proteins. Marasmus may result from an acute gastric infection or from a simple lack of food. Kwashiorkor, on the other hand, is an equally extreme condition usually occurring in the period after weaning but before the age of five or six years. The 'classical' theory of kwashiorkor causation argues that kwashiorkor results from a diet moderately adequate in calories but grossly deficient in protein.[11] Kwashiorkor often presents with retarded growth, changes in skin and hair pigmentation, diarrhoea, loss of appetite, nervous irritability, lethargy, oedema, anaemia and the fatty degeneration of the liver. The prognosis in kwashiorkor cases is significantly worse than in marasmic children and the biological mechanism, and especially the pathophysiology of the oedema, is still not fully understood.[12]

The terms undernutrition and marasmus can be used interchangeably. Both are subsumed by the term malnutrition, but it must be remembered that malnutrition and undernutrition are in no way synonymous. Undernutrition 'is primarily due to inadequate intake of calories whereas malnutrition is caused by inadequacy of particular, or several, essential nutrients, thus a person who is undernourished is also malnourished, though the converse may not hold.'[13] Undernutrition or marasmus, just like kwashiorkor, rickets, pellagra, scurvy and goitre, comes under the canopy of malnutrition but, as nutritional disorders, they each have very different medical and social causes. In spite of this, and as early as the 1960s, nutritionists working primarily in Uganda explained that cases of pure kwashiorkor or pure marasmus were very rare as 'most children have mixed deficiencies … which defy short precise nomenclature.'[14] Kwashiorkor and marasmus can

[11] It should be recognised that the 'classical' approach to kwashiorkor is not universally accepted. See, for instance, M.H. Golden, 'The Development of Concepts of Malnutrition', *The Journal of Nutrition*, 132.7 (2002), 2117S–2122S.

[12] For a textbook discussion of these problems see, A. Stewart Truswell, 'Protein-Energy Malnutrition', in *Essentials of Human Nutrition*, ed. by A. Stewart Truswell and Jim Mann (Oxford: Oxford University Press, 2012), pp. 301–9 (p. 302).

[13] N. Kakwani, *On Measuring Undernutrition* (Helsinki: WIDER, 1986), p. 1.

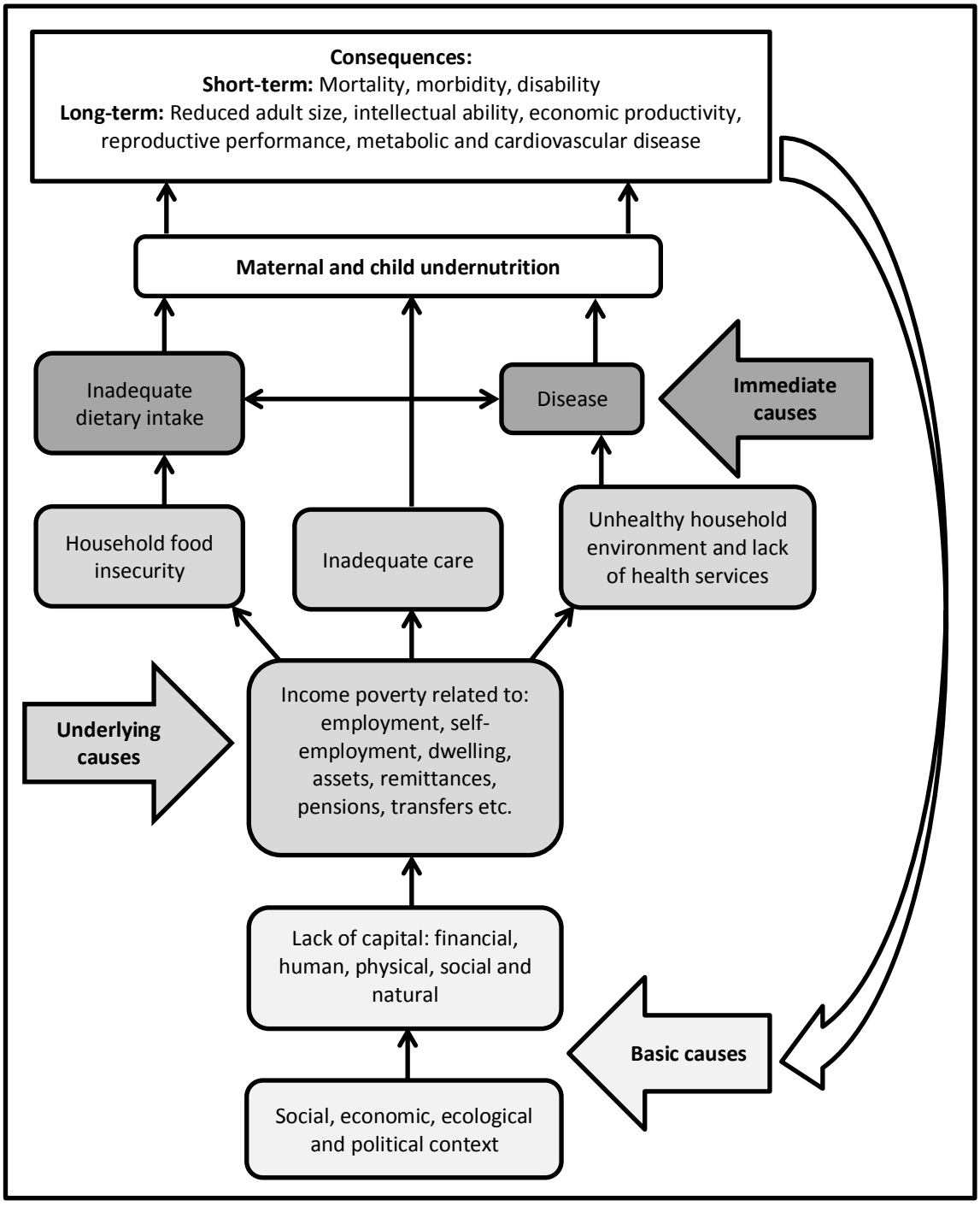
[14] D.B. Jelliffe and J.P. Stanfield, 'Protein Deficiencies and Calorie Deficiencies', *The Lancet*, 288 (1966), 207-08.

then be considered a spectrum of deficiency – protein-energy or protein-calorie malnutrition (PEM or PCM) – with kwashiorkor at one side, marasmus at the other and marasmic-kwashiorkor in between.[15]

Despite this relationship, marasmus and kwashiorkor have specific aetiologies and can be the result of very disparate environmental or social conditions – including culturally prevalent diets or child-rearing practices, localised systems of food production, medical misinformation and the influence of non-nutritional disease. Protein-energy malnutrition, when it occurs, is then tied to the economic, environmental and social reality of a specific time and place. If we accept the WHO/UNICEF framework regarding the underlying and immediate causes of child undernutrition [Figure 0.1] then each mechanism and the relative weight of each causative factor needs to be considered in the individual historical and spatial contexts in which they are operating. 'Inadequate care', for instance, is as influenced by shifting and highly specific cultural norms as it is by a family's economic inability to provide adequate care. On the other hand, access to and utilisation of healthcare is dictated by the distribution of facilities as well as by social norms regarding use. Even the disease environment shifts across both time and space. Each immediate, underlying and basic cause of nutritional disease is influenced by the specific social, cultural, ecological and economic environment in which they are operating.

[15] D.B. Jelliffe, 'Protein-Calorie Malnutrition in Tropical Preschool Children: A Review of Recent Knowledge', *The Journal of Pediatrics*, 54.2 (1959), 227–56.

Figure 0.2: Framework of the relations between poverty, food insecurity, and other underlying and immediate causes of maternal and child undernutrition and its short-term and long-term consequences. Variously employed by WHO, UNICEF and FAO.
Source: Robert E. Black and others, 'Maternal and Child Undernutrition: Global and Regional Exposures and Health Consequences', *The Lancet*, 371 (2008), 243–60



Although not an age-specific notion, malnutrition is primarily a problem of childhood. Since children and infants have little ability to feed themselves and growing, undeveloped bodies demand more careful feeding than adults, as well as more food and more nutritious food as a percentage of body weight, malnutrition is usually not a failure of food but of feeding. Often this suggests the feeding is insubstantial, imperfect or unhygienic, especially in the earliest developmental stages, during breastfeeding or while weaning. However, the costs and benefits of particular modes of infant feeding, and methods of childrearing more generally, are relative to the geographical and historical environment in which the children are raised. In fact, failures of feeding are more properly understood as failures of 'social' or 'domestic reproduction'. As contrasted with production for betterment or profit, social reproduction is, at its most simplistic, the basal labour necessary to ensure biological survival on a daily basis, as well as across generations. Of course, the provision of food, shelter, warmth and healthy children also actively drives the productive labour force. However, the value granted to social reproduction is historically and spatially transient, ultimately dependent upon the nature of local modes of production.[16] In this respect, nutritional health may be partly determined by disparities in 'social capital.' Broadly understood as the aggregate value gained from robust social networks, declines in social capital – through the erosion of such networks or through increasingly unbalanced power relationships – have the potential to upset nutritional health, especially if these are gendered changes or negatively affect the social value of domestic reproduction.[17]

In part, the history of malnutrition is a history of domestic constraint and domestic compromise and, in view of sweeping changes to African social reproduction over the course of the twentieth century, this study draws on gender-conscious histories of empire and globalisation.[18] However, any history of malnutrition must also recognise that social reproduction is heavily informed by contemporary wisdom and medical preoccupation. This is especially pertinent with regards to colonial healthcare, where racialised ideas of health and hygiene underlined the scientific discourse. Nutrition grew up in this context, as an arm of a particularly coercive form of governance and as part of a medical sphere which, as postcolonial theorists of medicine have explained, cannot be

[16] Cindi Katz, 'Vagabond Capitalism and the Necessity of Social Reproduction', *Antipode*, 33.4 (2001), 709–28.

[17] For a fuller exploration of similar ideas see, Henrietta L. Moore and Megan Vaughan, *Cutting down Trees: Gender, Nutrition, and Agricultural Change in the Northern Province of Zambia, 1890-1990*, Social History of Africa (London: James Currey, 1994).

[18] The most comprehensive example as relates to Ghana is, surely, Jean Allman and Victoria Tashjian, *'I Will Not Eat Stone': A Women's History of Colonial Asante*, Social History of Africa (Oxford: James Currey, 2000).

divorced from the colonial project.[19] Early understandings of nutrition were clouded by misdiagnoses, perceptions of cultural superiority and a pervasive paternalism which discounted the negative social and economic effects of colonial rule. This is something which Diana Wylie has discussed with regard to South Africa and, with specific focus on nutrition surveying, Cynthia Brantley has spoken to in Nyasaland, now Malawi.[20]

Just as former colonies often adopted British legal and parliamentary systems, the particularities and peculiarities of British society were partially integrated with often incompatible ideas of diet and wellbeing in European possessions overseas. These ideas were never static. The conceptualisation of community welfare in Britain shifted in response to the massive social changes started by the industrial revolution, the First and Second World Wars and the development of the welfare state. The state of nutritional science and those ideas prevalent in the metropole informed the trajectory of nutrition research and rehabilitation in the colonial world. The relationship between nutritional science in the colonies, and ideas of good nutrition at home has still not been fully expounded for the colonial period and has been barely touched upon for the decades afterwards. The relationships between scientific consensus, practical action and the culturally and politically subjective staging of good and bad nutrition will, therefore, frame this current study.

Loosely defined and poorly understood by policy-makers as well as consumers, good nutrition remains remarkably subjective. According to Gyorgy Scrinis, whose ideas were popularised in Michael Pollan's *In Defence of Food*, this is because twentieth-century dietetics was defined by a 'nutritionist' paradigm which promotes the reductive concentration on nutrients, side-lining the social interactions between food and health.[21] Indeed, the term 'malnutrition' acknowledges bad nutrients but fails to explain precisely what is so bad about them.[22] The opacity derived from the nutritionist paradigm has left the concept of malnutrition easily appropriated and prone to vulgarisation. Speaking to the history of nutrition in Africa, John Iliffe explained that 'nutrition was not only the most important food problem of late-colonial Africa but also a sensitive indicator of

[19] Megan Vaughan, *Curing Their Ills: Colonial Power and African Illness* (Stanford, CA: Stanford University Press, 1991).
[20] Diana Wylie, *Starving on a Full Stomach: Hunger and the Triumph of Cultural Racism in Modern South Africa*, Reconsiderations in Southern African History (Charlottesville: University Press of Virginia, 2001); Cynthia Brantley, *Feeding Families: African Realities and British Ideas of Nutrition and Development in Early Colonial Africa* (Portsmouth, N.H.: Heinemann, 2002).
[21] Gyorgy Scrinis, 'On the Ideology of Nutritionism', *Gastronomica*, 8.1 (2008), 39–48; Michael Pollan, *In Defence of Food: The Myth of Nutrition and the Pleasures of Eating* (London: Allen Lane, 2008).
[22] Sjoerd Rijpma, *David Livingstone and the Myth of African Poverty and Disease: A Close Examination of His Writing on the Pre-Colonial Era* (Leiden: Brill, 2015), p. 12.

poverty. Its history in particular regions is one of the most urgent tasks awaiting students of Africa.'[23] While this study certainly acknowledges the importance of malnutrition on African health and sincerely hopes to take up the mantle set by Iliffe, it refutes the linear relationship drawn between poverty and malnutrition. This ready conflation of poverty and poor nutrition is something which remains prominent in histories of Africa. Paul Harrison, for instance, has explained how 'malnutrition is the most acute physical expression of absolute poverty: it is poverty imprinted on human flesh and bone.'[24] However, this is clearly over-simplistic. Where hunger is a conscious acknowledgement of want, malnutrition is a subconscious, physiological response to dietary inadequacy often couched in culturally and socially subjective understandings of dietary adequacy. Where food may be considered a largely inelastic commodity, 'nutritious' food is much less so due to the pull of food cultures and dietary norms. This is not to say that malnutrition and poverty are not interconnected. They patently are. However, it is important to recognise that they are not interdependent and that, in view of the millions-of-deaths-per-year scale of the problem, the social and economic history of malnutrition deserves more concerted and isolated attention.

As both an empirical health concern intimately related to food supply and a socio-medical construct borne from political economy and politically-informed medical consensus, malnutrition must be considered a peripheral aspect of famine and food insecurity, as well as something entirely disconnected from hunger. The first point, the relationship between hunger and malnutrition, has received much more attention in recent, very valuable histories of African health, many of which deal specifically with the effects of colonialism. A growing consensus is that population pressure, epidemic disease and increased demands for labour in the first decades of colonial rule accompanied the growth of food insecurity and a rise of malnutrition during these years.[25] Using Southern Rhodesia as his example, Iliffe has explained that colonial famine relief assuaged the threat of epidemic starvation. However, the structural impact of colonial rule meant that 'food was regularly available to those who could afford it and regularly scarce for those who could not.'[26] Michael Watts, by contrast, has suggested that famine became more common but less severe under colonialism. Using Hausaland, in Northern Nigeria, Watts

[23] Iliffe, *African Poor*, p. 161.
[24] Paul Harrison, *The Greening of Africa: Breaking through in the Battle for Land and Food* (London: Paladin, 1987), p. 21.
[25] Sjoerd Rijpma, 'Malnutrition in the History of Tropical Africa', *Civilisations*, 1996, 45–63; Shane Doyle, 'Population Decline and Delayed Recovery in Bunyoro, 1860-1960', *Journal of African History*, 41.3 (2000), 429–58; Jan Kuhanen, *Poverty, Health, and Reproduction in Early Colonial Uganda* (University of Joensuu: Faculty of Humanities, 2005).
[26] John Iliffe, *Famine in Zimbabwe, 1890-1960* (Gweru: Mambo Press, 1990), p. 79.

explains that, although famine was present prior to colonial rule, diversified production and socially enforced systems of mutual aid averted a great deal of excess famine mortality. However, the increasing competition for scant resources which accompanied colonial capitalism was seen to undermine precolonial social contracts, while also failing to provide new safety nets or an efficient market economy which might have provided new modes of survival.[27] Though Iliffe and Watts are commonly taken to fundamentally disagree, it could be said that endemic hunger as a result of new forms of poverty and Watt's looser definition of mild famine due to falling patronage entitlements are not entirely separate problems. By contrasting changes in food-scarcity with new forms of deficiency born from market dependency, this paper intends to offer further context to these debates. In general, though, this study assumes a loose but extreme definition of famine as an atypical increase in mortality resulting from epidemic hunger.[28] This is loose because increased famine mortality largely derives from disease and the synergistic relationship between undernutrition and infection.[29] It is extreme because epidemic hunger does not necessarily lead to increased mortality.[30] Still, as a history of the grey areas between famine and malnutrition, some distinction must be made between famine and less remarkable epidemics of undernutrition.

Historians have also focussed on explaining the social mechanics behind African famine. For instance, Megan Vaughan's study of the 1949 Nyasaland famine and her longer duration history of nutrition in Zambia, undertaken in conjunction with Henrietta Moore, have described how family relations and social contracts adapted to the new forms and various failures of capitalist production.[31] By the later decades of the twentieth century, more efficient transport and communications improved famine relief systems and lessened the severity of famine across the continent.[32] Histories of these later famines have generally focused on the political economy of hunger. Influential histories of famine in Sudan have, for instance, described how powerful actors can create or

[27] Michael Watts, *Silent Violence: Food, Famine & Peasantry in Northern Nigeria* (Berkeley: University of California Press, 1983).
[28] This 'classic' definition is probably the most common conceptualisation of famine. See, for instance, Cormac Ó Gráda, *Famine: A Short History* (Princeton, N.J.: Princeton University Press, 2009), pp. 6–7.
[29] Alex De Waal, 'Famine Mortality: A Case Study of Darfur, Sudan 1984–5', *Population Studies*, 43.1 (1989), 5–24.
[30] De Waal, 'Famine Mortality'; Amrita Rangasami, '"Failure of Exchange Entitlements" Theory of Famine: A Response', *Economic and Political Weekly*, 20.42 (1985), 1797–1801; for more on this debate see, Paul Howe and Stephen Devereux, 'Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine', *Disasters*, 28.4 (2004), 353–72.
[31] Megan Vaughan, *The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi* (Cambridge: Cambridge University Press, 1987); Moore and Vaughan.
[32] Ó Gráda, pp. 96–97.

exploit famine in the absence of accountability.[33] Most of these histories have benefitted from the malleability of Amartya Sen's 'entitlement approach' to famine.[34] By directing the discourse away from supply-side or Food Availability Decline (FAD) analyses, the entitlement approach allows famine to be understood as group-specific demand failure influenced by disparities in social capital and socio-economic status. Entitlement is also a useful way to think about malnutrition, at least in the extent to which nutrition relates to crises of food acquisition.

Although seeking to expound the relationship between famine and malnutrition, this is not, a history of famine. While the history of nutrition in food secure parts of the continent has largely been ignored by historians, there has been some limited interest in the history of nutrition as distinct from hunger. Howard and Millard have, however, used Chagga societies on the fertile slopes of Mount Kilimanjaro to emphasise the complex cultural construction of malnutrition. They instead highlight the social stigmatisation and cyclical poverty traps which were accentuated by colonisation and globalisation.[35] Similar changes in food-secure communities in southern Uganda have seen the epidemiology of malnutrition shift from culturally endemic, mild forms of kwashiorkor to class-based nutrition disparities which correlate malnutrition and individual position within the cash economy.[36] These are the kwashiorkor belts and areas similar to Asante, – fertile, food secure forests, where malnutrition rarely results from a basal lack of food. In a similar way, Destombes has emphasised endemic undernutrition as an unremarkable aspect of 'everyday hunger' in north-eastern Ghana.[37] However, there are clear differences between malnutrition on Kilimanjaro, or in the forests of southern Uganda, and malnutrition amongst the perennially hungry food insecure of the West African savannah.

The difficulties we have defining nutritional adequacy reappear in the estimation of longitudinal and spatial changes in nutritional health. The indices particularly pertinent

[33] Alex De Waal, *Famine Crimes: Politics and the Disaster Relief Industry in Africa* (Oxford: Currey, 1997); David Keen, *The Benefits of Famine: A Political Economy of Famine and Relief in Southwestern Sudan, 1983-1989* (Oxford: James Currey, 1994).
[34] Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford University Press, 1981).
[35] Mary Howard and Ann V. Millard, *Hunger and Shame: Poverty and Child Malnutrition on Mount Kilimanjaro* (London: Routledge, 1997).
[36] Nott; see also, Jennifer Tappan, '"A Healthy Child Comes from a Healthy Mother": Mwanamugimu and Nutritional Science in Uganda, 1935-1973' (unpublished PhD, Columbia University, 2010).
[37] Jérôme Destombes, 'Nutrition and Chronic Deprivation in the West African Savanna: North-Eastern Ghana, C. 1930-2000' (unpublished PhD, London School of Economics, 2001); Jérôme Destombes, 'From Long-Term Patterns of Seasonal Hunger to Changing Experiences of Everyday Poverty: Northeastern Ghana, C. 1930-2000', *Journal of African History*, 47.02 (2006), 181–205.

for these aims, and central to this study, are 'nutritional status' and 'nutrition security.' While these are interrelated and often highly correlated concepts, it is important to recognise that they are not the same.

As a measure of an individual's nutritional health, nutritional status can be seen in infant anthropometry, as well as in the presentation of clinical nutritional disease. Nutritional status is a measure which suggests an individual's immediate nutritional health, malnourished or not. Although an individual measure, nutritional status can be averaged out across communities, regions or nations. Using human height as a proxy for nutritional status in infancy, the recent emergence of anthropometric history has been particularly valuable in lending a degree of empiricism to the history of nutrition. A number of important studies have shown how the average adult height achieved by a given population can be a sensitive indicator for the nutrition environment and standards of living during childhood.[38] This is patently true. In one 1979 Ghanaian study, for instance, a 12 year-old in an expensive Accra private school would, on average, tower over their compatriots in peri-urban slums by 12 centimetres.[39] The recent work of Alexander Moradi and a number of other economic historians has been particularly useful in extending anthropometric histories to Ghana, utilising longitudinal height data from military enlistees, as well as information from more modern cross-sectional surveys.[40] Data regarding infant growth rates, mostly from these same cross-sectional surveys, also provides useful and readily comparable insights into nutritional status in a given time and place. Hospital data may also suggest the community incidence of clinical deficiency but may be limited by inconsistent diagnoses, diagnostic preoccupation and often incomparable data sets.

The use of adult height can be somewhat misleading however, as it more properly reflects nutritional status throughout childhood *and* adolescence. In Ghana, adults born in the savannah are consistently taller than those born in the forest. However, worse economic indicators, a harsher disease environment, less secure food economies and a much higher incidence of infant mortality leave children in the North with considerably worse nutrition indices during infancy. Endemic 'nutrition insecurity' during these

[38] See, for instance, *Stature, Living Standards, and Economic Development: Essays in Anthropometric History*, ed. by John Komlos (Chicago: University of Chicago Press, 1994); Richard H. Steckel, 'Stature and the Standard of Living', *Journal of Economic Literature*, 33.4 (1995), 1903–40.

[39] D.K. Fiawoo, 'Physical Growth and the School Environment: A West African Example', in *Physiological and Morphological Adaptation and Evolution*, ed. by William A. Stini (The Hague: Mouton, 1979), pp. 301–14.

[40] For instance, Alexander Moradi, Gareth Austin, and Joerg Baten, *Heights and Development in a Cash-Crop Colony: Living Standards in Ghana, 1870-1980* (ERSA, 2013).

delicate years is, however, offset by dietary advantage at other points in the life course. Moradi and Baten suggest that this is due to higher-protein diets (consisting of maize staples and more animal protein) throughout childhood and especially during puberty.[41]

In contrast with nutritional status, nutrition security is much harder to measure. More closely related to systemic factors which influence nutritional health, nutrition security reflects the adequacy of food markets, the negative effects of disease environments and whether norms concerning diet and childrearing reflect best practice. Nutrition insecurity suggests a degree of vulnerability which is not necessarily realised and so is less apparent over the short- and medium-term. What the concept of nutrition security offers, however, is a tool to explain longitudinal, spatial and social disparities in nutritional status as well as the epidemiology of clinical deficiency.

In part, this study draws on the sources and methodologies offered by anthropometric history. Cross-sectional surveys, such as the Ghanaian editions of the Demographic Health Survey programme (G/DHS) and the Ghana Living Standard Surveys (GLSS), contain infant anthropometry from the late 1980s, as well as adult height data which can suggest the nutrition environment as far back as the early as the 1950s. Supplementary anthropometric data, much of which also speaks to the incidence of clinical malnutrition, has been derived from hospital records, unpublished health service data and published medical literature. The most valuable survey specifically comparing nutrition across the country is also the first, undertaken by F.M. Purcell at the behest of the imperial government between 1938 and 1941. Two other national nutrition surveys were undertaken in 1961-2 and 1986 but, aside from snatches of published material, both have been lost. Although anthropometric and medical data offer important insights into nutritional status across time and space, it rarely contains enough detail to suggest changes in nutrition security. However, by rooting this study in anthropology, medical history and demography, and by using a wide array of qualitative sources, it is hoped that this study can also speak to spatial and temporal vagaries in food and feeding. More discursive medical literature and the Purcell nutrition survey complement a wide range of archival sources detailing welfare, healthcare, food relief and famine.[42]

Attempting to unify spatially dependent histories of nutrition also requires some reliance upon the written social and economic histories of modern Ghana. Fortunately, historical

[41] Alexander Moradi and Joerg Baten, 'Inequality in Sub-Saharan Africa: New Data and New Insights from Anthropometric Estimates', *World Development*, 33.8 (2005), 1233–65.

[42] Due to time constraints, I did not consult the unordered colonial data kept in the 'Duplicate Letter Books' in the Ghanaian archives. As a result, most of the archival sources post-date the 1940s.

Ghana has been the focus of some of the most influential and innovative Africanist scholarship. Asante has proven particularly fertile, with Ivor Wilks extraordinary 800-page history of the nineteenth-century kingdom a significant step in the decolonisation of African history and a wonderful rebuttal to the dismissiveness of the Trevor-Ropers then denying Africa its past.[43] Within Ghana, the historical tradition emerged from historians also often focussing on the political and economic history of Asante, such as Kwame Ahrin.[44] In more recent years, focus has turned onto the twentieth century.[45] Gareth Austin's comprehensive economic history of Asante in transition grants valuable insight to the economics of nutrition and food security in the early twentieth century.[46] Jean Allman and Victoria Tashjian's wonderful gender history of Asante gives proper voice and agency to the women of Asante's recent past and is particularly useful for a history of nutrition in its relation to social reproduction.[47] Although previous literature has spoken to the nature of poverty in Asante, few studies have approached the problem of hunger or nutrition in the kingdom, perhaps because of Asante's food security. The historiography on Northern Ghana is, by contrast, less rich, although Ivor Wilks has also provided valuable insight, as have more recent studies by Hawkins and Lentz.[48] Some of the most versatile work on Northern Ghana is drawn from other disciplines. For instance, the pioneering anthropologist Jack Goody undertook much of his early fieldwork in Northern Ghana, some of which has proved foundational for the anthropology of food.[49] Esther Goody and Christine Oppong's studies of childhood and childrearing in Ghana's North are also particularly relevant.[50] Since the North is prone to crop failure and food insecurity, a number of studies have focused on the specific history of hunger here. Jérôme Destombes' *longue durée* history of Ghana's densely populated north-eastern

[43] Ivor Wilks, *Asante in the Nineteenth Century: The Structure and Evolution of a Political Order* (Cambridge: Cambridge University Press, 1975).
[44] Kwame Arhin, 'The Structure of Greater Ashanti (1700–1824)', *Journal of African History*, 8.01 (1967), 65–85.
[45] For instance, T.C. McCaskie, *Asante Identities: History and Modernity in an African Village, 1850-1950* (Edinburgh: Edinburgh University Press, 2001).
[46] Gareth Austin, *Labour, Land, and Capital in Ghana: From Slavery to Free Labour in Asante, 1807-1956* (Rochester, NY: University of Rochester Press, 2005).
[47] Allman and Tashjian.
[48] Ivor Wilks, Nehemia Levtzion, and Bruce M. Haight, *Chronicles from Gonja: A Tradition of West African Muslim Historiography* (Cambridge: Cambridge University Press, 1986); Sean Hawkins, *Writing and Colonialism in Northern Ghana: The Encounter Between the LoDagaa And 'the World on Paper'* (Toronto: University of Toronto Press, 2002); Carola Lentz, *Ethnicity and the Making of History in Northern Ghana* (Edinburgh: Edinburgh University Press, 2006).
[49] Jack Goody, *Cooking, Cuisine and Class: A Study in Comparative Sociology* (Cambridge: Cambridge University Press, 1982).
[50] Christine Oppong, *Growing up in Dagbon* (Tema: Ghana Publishing Corporation, 1973); Esther Goody, *Parenthood and Social Reproduction: Fostering and Occupational Roles in West Africa* (Cambridge: Cambridge University Press, 1982).

corner is probably the most comprehensive.[51] Food and survival in urban Ghana have also received some attention. Claire Robertson and Gracia Clark's respective accounts of market systems in Accra and Kumasi are the most relevant for our ends, with their specific focus on the gendered nature of urban food economies proving particularly useful.[52]

Although recognising the influence of ecology in the make-up of malnutrition, we should be cautious when considering often ahistorical ideas regarding environmental determinism. Instead, critical insights into how these spaces have converged are drawn largely from Marxian thinkers and Marxist critiques of the construction of space and nature. The ideas, developed by Samir Amin and other dependency theorists, have been finessed for specific discussion of Ghana by geographers such as Jacob Songsore and R.B. Bening.[53] In part, then, this is a study of the shifting, spatially determined economic demands of Ghana's long twentieth century. From the trade in commodities and, more profitably, people, in the precolonial nineteenth century to the neoliberal turn of the 1980s and 1990s, Ghana's economic trajectory has had various effects on the domestic and food economies which underwrite nutrition security in the distinct spaces this study intends to compare. This spatiality is well illustrated by cartography which, sadly, is only sparsely used in the current iteration of this study. Where maps have been used, they have been built by the author, using ArcGIS and a variety of historical maps and contemporary open-source data.

The aims and approaches employed by this study are often diverse but the focus is fairly straightforward, considering the problem first by timeframe and then by geography. However, to put the narrative history into proper context, Chapter One examines the medical history of African malnutrition. By focusing on the specific history of kwashiorkor, this chapter highlights how the politically informed othering of African nutrition dictated the medicine of malnutrition in later years. Chapter Two gives further context to twentieth-century changes by detailing the social reproduction of health and nutrition in the immediate precolonial period, using demography and anthropology to speak to the nature of nutrition on the eve of colonisation. The various food

[51] Destombes, 'Nutrition'.

[52] Claire Robertson, *Sharing the Same Bowl?: A Socioeconomic History of Women and Class in Accra, Ghana* (Bloomington: Indiana University Press, 1984); Gracia Clark, *Onions Are My Husband: Survival and Accumulation by West African Market Women* (Chicago: University of Chicago Press, 1994).

[53] Samir Amin, *Unequal Development: An Essay on the Social Formations of Peripheral Capitalism* (Hassocks: Harvester Press, 1976); R. Bagulo Bening, *Ghana: Regional Boundaries and National Integration* (Accra: Ghana Universities Press, 1999); Jacob Songsore, *Regional Development in Ghana: The Theory and the Reality* (Accra: Woeli, 2003).

environments and ecologies of nineteenth-century Ghana shaped understandings of wealth and poverty across discrete spaces, influencing family construction and providing continuing context for the social epidemiology of malnutrition.

Chapters Three and Four approach the most important aspects of malnutrition in the Southern and Northern Gold Coast under colonial rule. Focussing primarily on Asante, Chapter Three concerns the ways in which childrearing and social reproduction changed in response to the new demands of colonial capitalism. In Asante, as elsewhere, average nutritional status improved in conjunction with economic growth. However, the incidence of nutritional illness saw little improvement and may have even worsened as the devaluation of Asante motherhood and the nutrition security of their dependent children was negatively affected by the constraints on social reproduction which were particularly evident across the cocoa belt. Certainly, gendered economic change pre-empted the rise of 'commerciogenic' malnutrition and facilitated the later epidemic of infant malnutrition during the market contraction of the 1970s and '80s. In contrast with the forests, the initial trend of almost exclusively male migration allowed urban women in Southern cities a particularly beneficial position in a period when the value of domestic chores was heavily inflated, underpinning the nutritional advantage for city-born children into the 1950s. In Chapter Four, the interaction between malnutrition, food insecurity and migration in the North are addressed in view of habitual discourses regarding colonial coercion and Northern 'underdevelopment.' Neglect undoubtedly side-lined Northern health and coercion surely damaged Northern food security in these years. However, the development of the colony-wide labour market did provide new avenues for economic self-determination and new forms of wealth and security for those able to secure them, alongside new sources of gendered and generational conflict.

Following on from colonial histories, Chapter Five charts the tumultuous history of Ghana's early independent statehood, as well as the distribution of what were, on a national scale, unprecedented levels of malnutrition, peaking in the early 1980s. Political and economic instability in these years exposed the unevenness of Ghanaian development. That widespread want and epidemic malnutrition followed the collapse of the food market revealed the fundamental fragility of Ghana's twentieth-century economy. Acting as something of a companion to Chapter One, Chapter Six details developments in postcolonial nutritional science during the nadir of Africa's twentieth century crisis, the Malthusian explanations for this crisis and the nature of subsequent, 'neoliberal' approaches to nutrition care. Although nutritional science has moved on from its colonial construction, developments remain respondent to the politics and

preoccupations of what is still a very Western science. The final chapter, Chapter Seven, considers the epidemiology of malnutrition in view of the 'neoliberal' turn, which has defined national development since Structural Adjustment in the early 1980s. Following on from the previous chapter, this questions the relationship between malnutrition and market-led development, as well as the extent to which malnutrition can truly be addressed under the cultural hegemony of neoliberalism and with the tools thus provided.

1. TROPICAL DEFICIENCIES IN A UNIVERSALIST SCIENCE: COLONISING MALNUTRITION IN AFRICA

> 'They were all dying slowly – it was very clear... nothing but black shadows of disease and starvation, lying confusedly in the greenish gloom ... lost in uncongenial surroundings, fed on unfamiliar food, they sickened, became inefficient, and were then allowed to crawl away and rest.'[1]

It is a lazy trope, using *Heart of Darkness* to speak to a liberal nineteenth-century European view of Africa. Stil, as an enduring and deeply problematic image of Africa, *Heart of Darkness* grants suitable insight into the metropolitan imagination at the turn of the twentieth century. This is particularly important for our understanding of the history of health in Africa since, based upon descriptions of a sickly and primeval ecology, it was in this imagination that African illness was partially constructed. At the same time that disease in the colonies was constructed for a metropolitan audience its cure was constructed for its victims. In Conrad's Congo, the metropole had done little to alleviate oppressive ill-health but European technology had at least shone a light upon it and, perhaps, science and modernity could provide some salvation:

> 'Between whiles I had to look after the savage who was fireman. He was an improved specimen; he could fire up a vertical boiler ... a few months of training had done for that really fine chap ... he ought to have been clapping his hands and stamping his feet on the bank, instead of which he was hard at work, a thrall to strange witchcraft, full of improving knowledge.'[2]

It was here, in the imagined heart of darkness, that malnutrition was 'discovered' by colonial physicians. It was also here, in the racialized metropolitan understandings of medicine and modernity, that its remedy was sought.

As with many of the health concerns emerging across the colonial world, both the definition and the treatment of malnutrition were fermented in the cultural climate of imperial expansion.[3] That the history of nutrition is intimately bound to the history of colonisation is something which Michael Worboys and David Arnold explained over two

[1] Joseph Conrad, *Heart of Darkness* (London: Penguin, 2007), p. 24.
[2] Conrad, p. 53.
[3] See, for instance, Megan Vaughan, *Curing Their Ills: Colonial Power and African Illness* (Stanford, CA: Stanford University Press, 1991).

important and still very relevant articles published in 1988 and 1994 respectively.[4] However these papers work with broad definitions of malnutrition across the breadth of the British Empire, largely overlooking the particularities of individual deficiencies in more precise geopolitical contexts. Despite ostensibly universalistic understandings of nutritional health, the colonial construction of kwashiorkor as a recently discovered and uniquely African form of tropical illness was promoted from the centre and periphery because it was scientifically exciting and fit with politically expedient ideas which highlighted the exceptionalism of African poverty.[5] At the same time, the growth of nutritional science rode over important indigenous, socialised understandings of malnutrition, contributing to the misunderstandings and fiscal misallocations which have marred the prevention of malnutrition and promoted narrow technical treatments for illnesses which are better understood as symptoms of social dislocation.

a. The political extension of nutritional science at home and abroad

In order to understand nutrition in colonial Africa, we need to consider the development and politicisation of nutrition as it was understood by European polities prior to their colonisation of Africa and their assaults on African food cultures. Eating has long been understood as a political act and dietetics, or the implementation of a certain dietary regimen, has long reflected the ideals of a given political economy.[6] Failing to live up to these ideals could result in hunger or nutrition-related ill-health. In the biblical tradition, for instance, the Children of Israel thanked God for his guidance to those famine foods which prevented oedematous malnutrition (or perhaps hunger oedema) during their forty years in the wilderness.[7] Elsewhere, in Psalms, God changes 'a fruitful land into barrenness, for the wickedness of them that dwell therein.'[8] In humoral medicine, built on the work of Hippocrates in the fifth century BCE, diet was a fundamental tool for the preservation of good health and the treatment of disease. Galen (129-200 CE) expanded

[4] Michael Worboys, 'The Discovery of Colonial Malnutrition Between the Wars', in *Imperial Medicine and Indigenous Societies*, ed. by David Arnold (Manchester: Manchester University Press, 1988), pp. 208–25; David Arnold, 'The "Discovery" of Malnutrition and Diet in Colonial India', *The Indian Economic & Social History Review*, 31.1 (1994), 1–26.

[5] African exceptionalism has been discussed by Watts, see, Michael Watts, 'Entitlements or Empowerment? Famine and Starvation in Africa', *Review of African Political Economy*, 1991, 9–26; Michael Watts, 'Visions of Excess: African Development in an Age of Market Idolatry', *Transition*, 1991, 124–41.

[6] Tripp Rebrovick, 'The Politics of Diet "Eco-Dietetics," Neoliberalism, and the History of Dietetic Discourses', *Political Research Quarterly*, 68.4 (2015), 678–89.

[7] Deuteronomy 8. 4; Nehemiah 9. 21.

[8] V Psalms 107. 34

humoral dietetics, providing the foundations for European medicine well into the seventeenth century and promoting food as the primary recourse against illness.[9] Made politically relevant by the metaphor of the body politic, health and virtue were bound together and promoted through a moderate and considered diet.[10]

With the rise of nutritionist dietetics, by the end of the nineteenth century humoral understandings of diet had largely been replaced by the scientific analysis of individual nutrients.[11] The first scientific investigations into nutrition generally concerned the requisite amount of energy necessary for sustenance, while the discovery of protein and the chemical revolution in the eighteenth century broadened understandings of human nutrition.[12] By the mid-1800s, nutrition was incorporated more fully into a form of medicine built upon nascent understandings of epidemiology. Interest in nutrition was spurred on by the growing visibility of nutritional problems which emanated from significant changes in patterns of consumption. The Industrial Revolution and unprecedented social and economic change in Europe promoted the diversification of employment, the industrialisation of food production and widespread movements away from the land. Dietary patterns in European communities and in the various European diasporas changed rapidly in response to massive structural changes in the world's various food economies, while the incidence of nutritional illness likewise changed in response. Scurvy, beriberi, rickets and pellagra were all linked to consumption during these years and the discovery of vitamins during the first decades of the twentieth century granted a satisfying chemical explanation for these correlations and imbued nutritional science with a remarkable amount of momentum in the medical world.[13]

By the turn of the twentieth century, the concept of nutritional health had begun to transcend the medical sphere to become a more overtly political concern as well. Physical deterioration during the later 1800s was so marked that the height standards for British military recruits had to be dropped from 5'6" in 1845 to 5 feet in 1901. Average

---

[9] Galen, *Galen on Food and Diet, Translation and Notes by Mark Grant* (London: Routledge, 2000).
[10] Steven Shapin, 'How to Eat Like a Gentleman: Dietetics and Ethics in Early Modern England', in *In Right Living: An Anglo-American Tradition of Self-Help Medicine and Hygiene*, ed. by C. Rosenberg (Baltimore: Johns Hopkins University Press, 2003), pp. 21–58; Rebrovick, p. 681.
[11] Gyorgy Scrinis, *Nutritionism: The Science and Politics of Dietary Advice* (New York: Columbia University Press, 2013).
[12] For an informative general history of nutrition see, Kenneth J. Carpenter, 'A Short History of Nutritional Science: Part 1 (1785–1885)', *The Journal of Nutrition*, 133.3 (2003), 638–45; Kenneth J. Carpenter, 'A Short History of Nutritional Science: Part 2 (1885–1912)', *The Journal of Nutrition*, 133.4 (2003), 975–84; Kenneth J. Carpenter, 'A Short History of Nutritional Science: Part 3 (1912–1944)', *The Journal of Nutrition*, 133.10 (2003), 3023–32; Kenneth J. Carpenter, 'A Short History of Nutritional Science: Part 4 (1945–1985)', *The Journal of Nutrition*, 133.11 (2003), 3331–42.
[13] Carpenter, 'Part 2', pp. 975-984.

heights in the British army fell by half an inch between 1890 and 1900 alone.[14] The failure rate for British recruits was estimated to be around sixty percent and concern over Britain's fighting force was such that, in an article asking 'Where to Get Men?', Major General Sir John Frederick Maurice suggested that the British working class were now simply unable to meet even the drastically reduced physical requirements required by the military.[15] Amidst the jingoism of the Victorian political environment, and following the British infantry's inauspicious display in the South African War, investments in the wellbeing of the poor were increasingly understood as an indirect investment in Britain's status as a global power. Discussing Seebohm Rowntree's revealing study of poverty in York in 1902, Winston Churchill wrote that 'the American labourer is a stronger, larger, healthier, better fed and consequently more efficient animal than a large proportion of our population.'[16] In response to fears regarding Britain's declining 'national efficiency', in 1904 the government established an Inter-Departmental Committee on Physical Deterioration. The committee's final report recommended greater state involvement in nutrition including, amongst other things, the provision of school meals.[17]

Michel Foucault explains these changes as part of the emergence of 'biopolitics' and in the context of 'biopower,' where the state exerts authority over the body of the individual and the collective bodies of the wider populace. These changes, according to Foucault, presented an important historical shift from repressive forms of government and towards more progressive forms, with authoritarian control giving way to political paternalism.[18] As part of the 'biopolitics of the population,' nutritional science became an extension of this new form of governance which 'deals with the population … as a problem that is at once scientific and political.'[19] By the time of the First World War, elements of nutrition were understood as biopolitical objects with an express political significance, as tools to solve the problems of wartime food supply and population health.[20] Funding followed

[14] George F. Shee, 'The Deterioration in National Physique', *Nineteenth Century*, 53 (1903), 797–805.
[15] Richard Soloway, 'Counting the Degenerates: The Statistics of Race Deterioration in Edwardian England', *Journal of Contemporary History*, 17.1 (1982), 137–64 (p. 142).
[16] Quoted in Maurice Bruce, *The Rise of the Welfare State: English Social Policy, 1601-1971* (London: Weidenfeld and Nicolson, 1973), p. 129.
[17] James Vernon, 'The Ethics of Hunger and the Assembly of Society: The Techno-Politics of the School Meal in Modern Britain', *The American Historical Review*, 110.3 (2005), 693–725.
[18] Michel Foucault, *The History of Sexuality. Vol. 1: The Will to Knowledge* (London: Penguin, 1979), pp. 135–45.
[19] Michel Foucault, *Society Must Be Defended: Lectures at the Collège de France, 1975-76* (London: Penguin, 2004), p. 245.
[20] Robyn Smith, 'The Emergence of Vitamins as Bio-Political Objects during World War I', *Studies in History and Philosophy of Biological and Biomedical Sciences*, 40.3 (2009), 179–89.

nutrition's newfound status and, in the interwar years, nutrition-related research won around one-sixth of all Medical Research Council (MRC) grants.[21]

Extending a politicised concept of nutrition beyond British borders was understandable in the context of empire. Investigations into nutrition in European possessions overseas found ready acceptance from those in Whitehall who already understood the physical capital of the colonised as an extension of colonial power. Stimulated initially by the military mechanisms behind European expansion, nutrition research in the colonies largely consisted of debates over what rations were necessary for the good health of white soldiers stationed in the tropics.[22] However, in the mid-1920s, John Boyd Orr, later the first head of the FAO, and John Gilks, then head of the Kenyan Medical Service, undertook a pioneering survey of the nutrition of Africans themselves. Comparing the diets of the Kikuyu and Maasai, Orr and Gilks hoped 'to hasten the improvement of the physical condition of the native and to increase his importance as an economic factor.'[23] During a 1926 visit to the Gold Coast, W. Ormsby-Gore, Under-Secretary of State for the Colonies, explained that 'the capacity of labour … is bound up with the question of food. There are few parts of the world where the study of dietetics is more important than in Africa.'[24]

As an extension of state authority over a given population, biopolitics is practised differently depending upon the specific priorities of a given state. So, although the nutritionist discourse emphasised ostensibly universal, scientific understandings of nutrition, nutrition in the Empire was inextricable from the politics of empire. Central to the practice of imperial rule was the distancing of the colonised 'other' from the metropolitan norm. Differences in diet provided valuable distance between Europeans and their colonial subjects.[25] As part of an imperialised form of 'tropical medicine', nutrition helped establish a stark contrast between the peripheral 'white man's grave' and the vigour and wellbeing of the metropole. By monopolising access to the provision of healthcare in the tropics, the Colonial Office's establishment of the London School of

[21] Celia Petty, 'Primary Research and Public Health: The Prioritisation of Nutrition Research in Inter-War Britain', in *Historical Perspectives on the Role of the MRC: Essays in the History of the Medical Research Council of the United Kingdom and Its Predecessor, the Medical Research Committee, 1913-1953*, ed. by J. Austoker and L. Bryder (Oxford: Oxford University Press, 1989), pp. 83–108.
[22] Philip D. Curtin, *Death by Migration: Europe's Encounter with the Tropical World in the Nineteenth Century* (Cambridge: Cambridge University Press, 1989), pp. 125–29.
[23] J.B. Orr and J.L. Gilks, *Studies of Nutrition: The Physique and Health of Two African Tribes* (London: HMSO, 1931), p. 12.
[24] Report by Hon W. G. A. Ormsby-Gore on his Visit to West Africa, quoted in G.E. Metcalfe, *Great Britain and Ghana: Documents of Ghana History, 1807-1957* (London: Thomas Nelson & Sons for the University of Ghana, 1964), p. 613.
[25] See, Edward W. Said, *Orientalism* (London: Routledge & Kegan Paul, 1978).

Hygiene and Tropical Medicine (LSHTM) in the 1890s established medicine as an arm of imperial rule.[26] The spread of nutritionist dietetics and imperial biopower created an intellectual environment which attracted anthropologists and doctors working in the colonies to the 'otherness' of food and nutrition in the areas to which they had been posted.[27] Dietary surveys were also used to explain the relative position of the colonised across the Empire. In India, dietary differences provided a scientific, nutrition-based rationale for the martial races theory. David McCay, Professor of Physiology at Calcutta's Medical College, explained in 1912 that differences in diet 'appear to be the determining factor of the several causes that go to relegate, fix and maintain the position of a people, tribe or race in the category of men.'[28]

In 1933, the League of Nations' Health Organisation implored member states to investigate the nutritional status of their citizens and their colonial subjects, arguing that 'the fact that the greater part of the population of Africa and Asia … suffers from insufficient or faulty feeding is no longer a secret, and there is more honour to be gained in attempting to improve the situation than in concealing it.'[29] The British response began in 1936 when Colonial Secretary, J.H. Thomas, sent a circular memo to each British possession requesting information on the nutritional status of their populations, the state of nutritional research in their colonies, and possible ways to improve the diets of colonial subjects. The resulting two-volume report, *Nutrition in the Colonial Empire*, was widely publicised and distributed, its 1939 release promoted by Lord Dufferin on the BBC and Lord Hailey in *The Times*.[30] In *The Times*, Lord Hailey proudly announced that the report:

> 'Covers … an area of well over two million square miles and with a population … divided into countless groups having the most different food habits and customs that it is possible to imagine.'[31]

In spite of this enormous breadth, *Nutrition in the Colonial Empire* explained that:

---

[26] Douglas M. Haynes, *Imperial Medicine: Patrick Manson and the Conquest of Tropical Disease* (Philadelphia: University of Pennsylvania Press, 2001), pp. 140–51.

[27] For example, W. E. McCulloch, *An Inquiry into the Dietaries of the Hausas and Town Fulani of Northern Nigeria, with Some Observations of the Effects on the National Health, with Recommendations Arising Therefrom* (Lagos: Government Printer, 1930); M. Fortes and S.L. Fortes, 'Food in the Domestic Economy of the Tallensi', *Africa*, 9.2 (1936), 237–76.

[28] Quoted in Arnold, pp. 12–13.

[29] E. Burnet and W.R. Aykroyd, 'Nutrition and Public Health', *League of Nations: Quarterly Bulletin of the Health Organisation*, 4 (1935), 323–474 (p. 452).

[30] The National Archives, Kew (TNA)/CO/859/14/6, Report on Nutrition in the Colonial Empire, 1939. G.C. Eastwood, Joint Secretary to the Committee on Nutrition in the Colonial Empire, draft circular regarding the work of the committee, 8/11/1939.

[31] Malcolm Hailey, 'Nutrition in the Colonies', *The Times* (London, England, 26 July 1939), p. 15.

> 'Diseases resulting from malnutrition … prevail almost everywhere among tribal races … excess of carbohydrate, deficient of fat and first class protein and uncertain or negligible supplies of milk and green vegetable are the outstanding features.'[32]

Not only was this description grossly inaccurate, even in the context of contemporary knowledge, it also understated the worth of vegetable matter, overstated the value of animal produce and created a simple dichotomy between colonial and European diets. This othering of non-European diets formed the crux of the colonial dietetic discourse, providing scientific justification for the colonisation of food as part of the wider colonial project.

b. *Discovering kwashiorkor: the European roots of an African disease*

The specific history of kwashiorkor is especially interesting in the context of tropical otherness, not least because the place of protein deficiency in Europe is poorly understood, but also because kwashiorkor has assumed such prominence in the wider aetiology of African illness. It is, therefore, worth thinking about why kwashiorkor was so prevalent in Africa yet was apparently absent from the history of European disease. While this certainly resulted from differences in food and domestic economy it also related to the politics of colonial nutrition, the othering of African diets and the place of animal protein as a prime constituent in the dominant European dietetic. In this respect, the discovery of kwashiorkor in the 1920s and Brock and Autret's oft-quoted 1952 conclusion that kwashiorkor is 'the most serious and widespread nutritional disorder known to medical and nutritional science' was derived as much from the predispositions of European physicians as it was from the African disease environment.[33]

In Africa, the incidence of kwashiorkor is largely determined by weaning practices, and only then influenced by the food environment. It is likely that the same can also be said for Europe. Indeed, in eighteenth and nineteenth-century Germany fairly standard breastfeeding customs meant that 'all social strata within a village appeared to have shared a more or less common risk of child loss.'[34] In seventeenth-century England, stunted growth, rickets, gastroenteritis and teething were all associated with weaning.

[32] TNA/CO/323/1571/5, Nutrition in the British Colonial Empire, summary of replies to circular dispatch of 18 April 1936, November 1937.
[33] J. F. Brock and M. Autret, *Kwashiorkor in Africa* (Rome: FAO, Nutritional Studies, no. 8, 1952), p. 72.
[34] John E. Knodel, *Demographic Behaviour in the Past: A Study of Fourteen German Village Populations in the Eighteenth and Nineteenth Centuries* (Cambridge: Cambridge University Press, 1988), p. 447.

'Teething', which may simply be synonymous with 'weaning,' was often cited as a cause of death and the 'weaning illness' – diarrheal infections as a result of sudden dietary change and increased susceptibility to infection – was also common enough to be regarded as 'normal and inevitable.' Dietary deficiencies also appeared in the form of rickets, wasting and stunted growth.[35] The 'danger period during weaning' that was described by Hebe Welbourn with regards to kwashiorkor in Uganda was certainly well known in Europe – recorded since at least pre-Christian Greece – but, unlike in Uganda, dramatic clinical presentations of the disease are less apparent in the European historical record.[36] It seems rather unlikely that kwashiorkor did not present in the children of feudal Europe, although perhaps the incidence was lower than in Welbourn's Uganda. Instead, we can probably assume that the contemporary medical discourse could not accurately elucidate the incidence of kwashiorkor during this time. In any case, this is something which calls for concerted investigation elsewhere.

Only during the industrial revolution does kwashiorkor plainly emerge in the European medical literature. By the late 1700s, accounts of oedematous malnutrition in infant children were listed in popular paediatric textbooks.[37] As the national economy became more capitalistic medicine, ironically, became more socially conscious. At the same time as new patterns of consumption and new forms of poverty were emerging in Europe, 'national efficiency' and the wellbeing of the poor became more immediately relevant to national output. In the early years of the next century, attention turned to address nutritional problems particular to the children of the poor.[38] Here symptoms now usually associated with kwashiorkor such as wasting; oedema in the legs, arms and stomach; fatty livers; skin disorders; loose stools and other intestinal problems were described in irritable and apathetic children that had been weaned too early.[39] The changing incidence of European malnutrition is likely also reflected in the sporadic decline of average heights during the nineteenth century.[40] It is also likely that the social

[35] Valerie A. Fildes, *Breasts, Bottles and Babies: A History of Infant Feeding* (Edinburgh: Edinburgh University Press, 1985), pp. 390–93.
[36] Fildes, pp. 365–66; H.F. Welbourn, 'The Danger Period During Weaning', *Journal of Tropical Pediatrics*, 1.1 (1955), 34–46.
[37] Hugh Smith, *Letters to Married Women* (London: C. and G. Kearsly, 1767); George Armstrong, *An Essay on the Diseases Most Fatal to Infants* (London: T. Cadell, 1771).
[38] Richard Baron Howard, *An Inquiry into the Morbid Effects of Deficiency of Food, Chiefly with Reference to Their Occurrence amongst the Destitute Poor* (London: Simpkin, Marshall and Co., 1839); Eustace Smith, *On the Wasting Diseases of Infants and Children* (London: J. & A. Churchill, 1868).
[39] Sjoerd Rijpma, *David Livingstone and the Myth of African Poverty and Disease: A Close Examination of His Writing on the Pre-Colonial Era* (Leiden: Brill, 2015), p. 437.
[40] For the complex history of height in Europe see, for instance, John Komlos, 'Shrinking in a Growing Economy? The Mystery of Physical Stature during the Industrial Revolution', *The Journal of Economic History*, 58.3 (1998), 779–802.

mechanisms causing kwashiorkor in nineteenth-century Europe were similar to those at play in Africa and were not only related to localised food economies but also to the domestic economy of childrearing – two aspects of European life which changed enormously throughout the nineteenth century.[41] In the early twentieth century, diagnoses of these disorders emphasised the overconsumption of starch, rather than a deficiency of protein. In 1909, Czerny and Keller described Mehlnährschaden, or 'damage by starch.'[42] In subsequent years, reports came from Europe and the United States further detailing 'injuries produced by starch' and 'diseases of infants due to prolonged feeding with excess carbohydrates.'[43]

By this time, however, protein deficiencies were becoming less common across the Western world, since the industrial revolution had also revolutionised European diet. Protein and animal products had long been central to European perceptions of a healthy diet. However, the 'democratisation' of meat consumption through the nineteenth century has been seen to constitute a 'food revolution' which greatly increased the relative protein content of European diets and more firmly aligned meat with good health in European medicine.[44] By the mid-1800s, the medical consensus was that meat 'exceed[s] all other foods in nutritional power' and access to meat became thought of as fundamental right.[45] Products such as Bovril meat-extract emerged in the 1870s in order to provide the poor with affordable animal protein, simultaneously starting the long-standing trend of marketing manufactured food-like supplements to the poor rather than addressing shortcomings in the supply of real food [Chapter 6].[46] In the years after the First World War, protein deficiencies became increasingly interesting to a medical community newly exposed to the destitution of the poor in the ghettos of Europe and in the dustbowls of North America.[47] International crises made epidemic malnutrition a

[41] Stephen Nicholas and Richard H. Steckel, 'Heights and Living Standards of English Workers During the Early Years of Industrialization, 1770-1815', *The Journal of Economic History*, 51.4 (1991), 937–57 (p. 944); Stephen Nicholas and Deborah Oxley, 'The Living Standards of Women during the Industrial Revolution, 1795-1820', *The Economic History Review*, New Series, 46.4 (1993), 723–49 (p. 730).
[42] A. Czerny and A. Keller, *Des Kindes Ernährung, Ernährungsstörungen Und Ernährungstherapie* (Leipzig: Franz Deuticke, 1906).
[43] C.E. Bloch, 'Diseases of Infants Due to Prolonged Feeding With Excess of Carbohydrates', *British Medical Journal*, 1.3139 (1921), 293–95; I.A. Abt, 'Injuries Produced by Starch', *Journal of the American Medical Association*, 61.14 (1913), 1275–77.
[44] Vincent J. Knapp, 'The Democratization of Meat and Protein in Late Eighteenth- and Nineteenth-Century Europe', *Historian*, 59.3 (1997), 541–51.
[45] Jonathan Pereira, quoted in Knapp, p. 546.
[46] Lisa Haushofer, 'Darby's Fluid Meat: Artificially Digested Foods and the Pathophysiology of Sickness' (presented at the Dietary Innovation and Disease in the 19th and 20th Centuries, San Servolo Island, Venice, 2016).
[47] M.H. Golden, 'The Development of Concepts of Malnutrition', *The Journal of Nutrition*, 132.7 (2002), 2117S–2122S (p. 2117S).

more pressing concern and European doctors were primed to ascribe particular importance to the place of animal protein in diet. Throughout the 1920s, several papers speculated that 'hunger oedema' or 'war dropsy' was the result of inadequate protein intake.[48] The question of protein in the presentation of oedema appeared to be confirmed in the later 1920s, when low-protein diets produced an analogous form of kwashiorkor in white rats.[49] Only in the unique clinical environments of the wartime Minnesota Starvation Study and post-war German orphanages was it discovered that oedema could present during periods of hunger, even in patients with no history of low-protein diets.[50] Prior to this, researchers were naturally drawn to these curious, oedematous presentations of want and, in the European cultural environment, diets deficient in protein and especially those deficient in animal protein were seen as particularly flawed.

These developments accompanied the expansion of European involvement in Africa and served to highlight the differences between the increasingly democratised European nutritionist dietetic and latterly constructed ideas of the 'average' African diet. Even the earliest physicians exploring Africa highlighted the lack of meat as a chief cause of European ill-health on the continent. In the Gold Coast, Dupuis was of the opinion that 'many fall victim to the climate from the adoption of a course of training improperly termed prudential; viz. a *sudden* change of diet, from *ship's fare* to a scanty sustenance of vegetable matter.'[51] The relative disinterest in meat as a staple in African food cultures was also considered particularly curious. Winterbottom, for instance, noted that 'an African, who has been feasted with every delicacy which an European table can afford, yet if rice has not constituted a part of his entertainment, will say, he has had *no meat* for so long a time, and on his return home will recur to his beloved food with redoubled

[48] J.A. Nixon, 'Famine Dropsy as a Food-Deficiency Disease', *Bristol Medico-Chirurgical Journal*, 37 (1920), 137–48; A.D. Bigland, 'Oedema as a Symptom in So-Called Food Deficiency Diseases', *The Lancet*, 195.5031 (1920), 243–47.

[49] R. A. Frisch, Lafayette B. Mendel, and John P. Peters, 'The Production of Edema and Serum Protein Deficiency in White Rats by Low Protein Diets', *Journal of Biological Chemistry*, 84.1 (1929), 167–77.

[50] A. Keys and others, *The Biology of Human Starvation* (Minneapolis: University of Minnesota Press, 1950), pp. 921–65; R.A. McCance, 'The History, Significance and Aetiology of Hunger Oedema', in *Studies of Undernutrition, Wuppertal 1946-9: Medical Research Council Special Report Series, No. 275*, ed. by Department of Experimental Medicine University of Cambridge (London: HMSO, 1951), pp. 21–82.

[51] Joseph Dupuis, *Journal of a Residence in Ashantee: Comprising Notes and Researches Relative to the Gold Coast and the Interior of Western Africa; Chiefly Collected from Arabic Mss. and Information Communicated by the Moslems of Guinea; to Which Is Prefixed an Account of the Origin and Causes of the Present War* (London: H. Colburn, 1824), pp. v–vi.

ardour.'[52] By the 1920s, Purcell would go so far as to describe vegetable-based diets in the Akan forest as actively 'dangerous.'[53]

The advent of tropical medicine and nutritional science facilitated the spread of nutrition research into the fertile ground of the Global South, where oedematous malnutrition was found to be particularly prevalent. In Latin America, kwashiorkor was described in a number of articles from 1908.[54] In literature emanating from the French Empire, doctors described the 'Swelling [disease] of Vietnam', as early as 1913.[55] Similar diseases were also being described in the British Empire at least by the 1920s.[56] However it was the work undertaken in the Gold Coast by the indomitable British paediatrician Cicely Williams which cemented an illness, known by the Ga as kwashiorkor, as something undocumented in Western medical literature. Published in 1933, Williams' cautious suggestion that kwashiorkor was a disease 'in which some amino acid or protein deficiency cannot be excluded' sparked decades of debate and research into primarily African presentations of the illness.[57]

In earlier years, European doctors in Africa had been relatively dismissive of such conditions, even though they were readily apparent. In the 1870s, a German doctor travelling in the Loango Kingdom (now part of the Democratic Republic of Congo) found children with protruding abdomens, 'just as white children, who had consumed large quantities of carbohydrate-rich food in early youth.'[58] Early doctor-explorers like Livingstone and Winterbottom had received their medical training in the particular nutrition environment of the industrial revolution and were not struck by the novelty of such symptoms.[59] However, by the 1920s, Rijpma explains that 'it is not surprising that [Williams] called it a 'new disease': the symptoms were hardly seen in Europe then.'[60]

In the absence of effective medical communication, especially in the colonial world, it was not until later in the twentieth century that the numerous descriptions of

---

[52] T.M. Winterbottom, *An account of the native Africans in the neighbourhood of Sierra Leone; to which is added an account of the present state of medicine among them.* (London: C. Whittingham, 1803), p. 66.
[53] F.M. Purcell, *Diet and Ill-Health in the Forest Country of the Gold Coast* (London: Lewis, 1939), p. 14.
[54] M. Autret and M. Behar, *Síndrome Policarencial Infantil (Kwashiorkor) and Its Prevention in Central America* (Rome: FAO Nutritional Studies, no. 13, 1954).
[55] L. Normet, 'La Bouffissure d'Annam', *Bulletin de La Société de Pathologie Exotique*, 3 (1926), 207–13.
[56] R.A.W. Procter, 'Medical Work in a Native Reserve', *Kenya Medical Journal*, 3 (1926), 284–89.
[57] Cicely D. Williams, 'A Nutritional Disease of Childhood Associated with a Maize Diet', *Archives of Disease in Childhood*, 8.48 (1933), 423–33 (p. 432).
[58] J. Falkenstein, quoted in Sjoerd Rijpma, 'Malnutrition in the History of Tropical Africa', *Civilisations*, 1996, 45–63.
[59] Rijpma, *Livingstone*, p. 437.
[60] Rijpma, *Livingstone*, p. 436.

kwashiorkor began to be brought together.[61] Williams' work was particularly attractive because it emphasised the absence of protein in the diet, rather than the excess of starch, and because it was the first focused English language discussion of the disease. Dermatological signs were also made more dramatic by their presentation on black skin and by the white-colonial obsession with blackness. In general, Williams' lengthy descriptions of kwashiorkor stood out because, through the prism of British tropical medicine, this definition fitted into the now well-established exceptionalism of African illness, something which was only exacerbated by William's use of and, subsequently, the global adoption of the Ga terminology.

Interest in kwashiorkor was also stimulated by disagreements over its diagnosis and its cause. The most vociferous opposition to Williams' diagnosis came from Hugh Stannus, the Empire's leading authority on tropical deficiency diseases. Adamant that this disease was nothing more than infantile pellagra, a deficiency disease caused by a chronic lack of niacin, Stannus' diagnosis was to colour the understanding of kwashiorkor for more than a decade. The medical profession in the 1930s was characterised by intractability and the mainly male establishment was especially suspicious of an upstart female medical officer. In his response to Williams first paper, Stannus explained that her diagnosis was a simply a symptom of her naivety, writing that;

> 'Dr. Williams has described what, to workers with an extensive clinical experience of pellagra, must appear as a complete picture of that disease in young children. The present writer over twenty years ago also failed to recognize pellagra when he came across the disease in Central Africa.'[62]

Despite some support from other physicians, particularly in the Gold Coast, it was not until 1952 that Brock and Autret, acting on behalf of the United Nations, gave international credence to Williams' diagnosis.[63] Much of the intervening research into kwashiorkor relied on the industry of Hugh Trowell and the Kampala cohort. After following the Williams-Stannus dialogue with interest, Trowell continued work on what he would come to term 'infantile pellagra' (after siding with Stannus) and later 'malignant malnutrition.' Upon learning of the American discovery of nicotinic acid in 1937 and its incredible effect on pellagrous patients, Trowell experimented with the new

[61] For the early history of kwashiorkor's discovery see, H.C. Trowell, J.N.P. Davies, and R.F.A. Dean, *Kwashiorkor* (London: Edward Arnold, 1954).
[62] Hugh S. Stannus, 'A Nutritional Disease of Childhood Associated with a Maize Diet—and Pellagra', *Archives of Disease in Childhood*, 9.50 (1934), 115–18 (p. 116).
[63] N.A. Dyce Sharp, 'A Note on a Nutritional Disease of Childhood', *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 28.4 (1935), 411–12; Brock and Autret, p. 72.

vitamin on ten children in his care. To his shock, eight of them died with apparently no prior improvement.[64]

Trowell's slow progress was largely due to the complicated pathology of kwashiorkor. By 1937, after feeding patients with cow's milk, liver and all known vitamins and continuing to lose around 40 percent of patients, Trowell was convinced that kwashiorkor was not a simple single nutrient deficiency.[65] The mysterious aetiology of the disease only began to unfold after Jack Davies' 1942 post-mortems showed up degenerated pancreases in the deceased, suggesting that patients were unable to digest their food due to a shortage of pancreatic secretions and also explaining why supplements provided little help to patients with advanced kwashiorkor. By 1946 it was suggested that a lack of protein could severely harm the tissues and organs of the body because it restricted the ability to create new tissue. The functioning of the liver and the pancreas were gradually undermined, leading to a decline in enzyme production and the restriction of nutrient absorption. The subsequent failure to digest led to diarrhoea and, because of excessive fat, an enlarged liver.[66]

The early medical history of kwashiorkor was also hindered by the reservations of colonial administrators. In Uganda, R.S.F. Hennessey, a politically-minded pathologist, who would later become Principle Medical Officer of the Uganda Protectorate, took little interest in kwashiorkor. Before his promotion, Hennessey would perform a number of autopsies in the space of an hour, mainly on vital organs extracted by students and medical assistants. Jack Davies, taking fifty sections of one cadaver, later found the critical pancreatic degenerations on his first attempt.[67] It is difficult to say whether Hennessey's failure to do more to recognise the pathology of kwashiorkor was due to incompetence, restraints on his time or, perhaps, wilful ignorance. In any case, he was certainly resistant to Trowell's investigations. Trowell, in fact, describes Hennessey saying 'oh, there's nothing in Kwashiorkor. It's just that they're not very well fed, then they pick up malaria, hookworms, and all the rest of it. What's the mystery? There is no new complaint here.'[68] Both Hennessey and the then Governor of Uganda, John Hall, had

---

[64] D.T. Smith, J.M. Ruffin, and S. Smith, 'Pellagra Successfully Treated with Nicotinic Acid: A Case Report', *Journal of the American Medical Association*, 109.25 (1937), 2054–55 (p. 2054); Jan Kuhanen, *Poverty, Health, and Reproduction in Early Colonial Uganda* (University of Joensuu: Faculty of Humanities, 2005), p. 338.

[65] H.C. Trowell, 'Infantile Pellagra', *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 33.4 (1940), 389–404.

[66] H.C. Trowell, J.N.P. Davies, and R.F.A. Dean, 'Kwashiorkor—II. Clinical Picture, Pathology, and Diagnosis', *British Medical Journal*, 2.4788 (1952), 798–801.

[67] Rhodes House, Oxford (RH)/MSS.Afr.S.1872 Box XX, J.N.P. Davies, *Personal Reminiscences*.

[68] RH/MSS.Afr.S.1872 Box XXXV, H.C. Trowell, *Interview, 1982*.

tried to privately dissuade Trowell from keeping on with his kwashiorkor work, Hall once asking 'where will all this racket end?'[69]

However the concerns of administrations inside individual colonies were not necessarily the same as those in Whitehall. While in-country administrators were loath to draw attention to a high incidence of kwashiorkor in their jurisdictions, those at the centre realised that, if malnutrition had to exist in the Empire, then protein deficiencies were more politically palatable than a fundamental lack of food, particularly if they could be presented as an endemic problem in certain environments. By emphasising that 'the native food problem is not so much one of quantity as one of quality,' kwashiorkor could actively alleviate metropolitan responsibility for malnutrition in the colonies.[70] There was a year between the receipt of replies to the 1936 Thomas circular and the final publication of *Nutrition in the Colonial Empire*. Over the course of that year, representative preliminary reports were 'depoliticised' by the Colonial Office to remove any suggestion that low wages, inadequate returns from cash-crops and declines in food production were complicit in the pervasive pattern of malnutrition.[71]

In the Gold Coast as elsewhere, reports circulated after the Colonial Office's initial request for information suggested that, contrary to the conclusions which were published later, the colony's greatest nutritional problem was not a deficiency of quality foods (although that was a concern) but endemic undernutrition and the constant threat of famine in particular areas.[72] In response to Whitehall's request for information on colonial nutrition, the Gold Coast government seconded F.M. Purcell to undertake a detailed investigation into nutrition across the colony. Purcell was well-chosen. Prior to this secondment, he had published an inquiry into nutrition and disease in the Akan forest.[73] However inaction and official indifference marred Purcell's two-year-long investigation. Audrey Richards was to later explain that, 'in spite of our circulars, the

[69] RH, Trowell, *Interview*.
[70] TNA/CO/323/1571/5, Nutrition in the British Colonial Empire, summary of replies to circular dispatch of 18 April 1936, November 1937.
[71] Worboys, p. 220.
[72] Public Records and Archives Administration Department (PRAAD)/Accra (A)/ADM 11/1/1294, F.M. Purcell, 'Report of the standing committee to study the important question of human nutrition, 1937-41'
[73] Purcell, *Diet and Ill-Health*; The following debate regarding Purcell's research has also been discussed by Destombes. See, Jerôme Destombes, *Nutrition and Economic Destitution in Northern Ghana, 1930-1957. A Historical Perspective on Nutritional Economics*, Economic History Working Papers (London: Department of Economic History, LSE, 1999), pp. 1–63.

Heads of the technical services (medicine, agriculture and education), do not seem to have cooperated very closely with Dr. Purcell.'[74] On the completion of his report:

> 'A senior officer … remarked: "this report will not be sent home … as it reveals neglect on the part of the local administration in the Northern Territories, they would not send it home" … unofficially it was explained to me that "no one may starve in the British Empire"'[75]

'Venting his grievances' in the journal *West Africa*, Purcell's revelations were notable because they simply did not fit official representations of nutritional health in the colonies.[76] In response to the *West Africa* article, the *West African Review* took it upon itself to remind readers that 'we must avoid the error of supposing that shortage of vital foods, present and pending, is something affecting Germans alone.'[77] To the public, the Colonial Office was required to explain that;

> 'Short term, local relief measures operate for the periodical acute hunger in the villages of the territories, but the solution of the problem is a matter for long-term development.'[78]

Meanwhile, at the behest of Oliver Stanley, Secretary of State for the Colonies, Governor Alan Burns was asked to privately explain the state of nutrition in the Territories. Assuring Stanley that 'I am by no means complacent about the situation which the Purcell Report reveals', Burns also acknowledged that 'the problems of nutrition can only be tackled effectively on a long term basis and in conjunction with the many other problems with which we are faced.'[79]

Starvation in the Empire was a particularly difficult problem for Whitehall to contend with since it was difficult to divorce absolute failures of subsistence from fundamental structural problems, macroeconomic flaws, bad governance or changes recently initiated by imperial rule. In his unpublished reply to the 1936 Thomas circular, the Director of the Gold Coast's Medical Department suggested a direct connection between the consequences of an export-oriented economy and nutritional deficit since;

---

[74] TNA/CO/859/68/1, Nutrition research survey: Gold Coast, 1941-1943. A.I. Richards, 'Notes on Dr. Purcell's reports on Nutrition in the Gold Coast, 1940', 17/9/1941.
[75] F.M. Purcell, 'The Gold Coast Government, the Colonial Office, and Nutrition: Facts of an Astonishing Colonial Episode, Letters to the Editor', *West Africa*, 4 December 1943, p. 1095.
[76] TNA/CO/859/68/1, Nutrition research survey: Gold Coast, 1941-1943. Note by S. Culwick regarding the *West Africa* article, 21/7/1943.
[77] 'Colonies and Calories', *West African Review*, March 1946, 255–56.
[78] 'Nutrition in West Africa', *West African Review*, June 1946, 618–19.
[79] TNA/CO/859/115/3, Gold Coast: extracts from informal colonial medical reports, development plans and other papers [pertaining to nutrition], 1944-1946. Letter from Sir Alan Burns, Governor of the Gold Coast, to Oliver Stanley, Secretary of State for the Colonies, 16/2/1944.

> 'So much attention has been devoted to the cocoa and mining industries that the fact that the majority of inhabitants are simple village farmers living chiefly on food produced on their farms is apt to be overlooked.'[80]

The reply from the Gold Coast was not unique and critiques of colonial food policy were common throughout the 1930s.[81] The pioneering anthropologist and sometime colonial agent, Audrey Richards, summed up the views of many Africanist scholars in 1939 when she remarked that the diet and health of the colonised 'has deteriorated in contact with white civilisation rather than the reverse.'[82] However, in the context of colonial development, malnutrition was reframed from a structural problem resulting from colonialism to a technical one which could only be addressed with appropriate European intervention.[83] Stressing ignorance and backwardness shaded over the recent origins of the issue, allowing the reformulation of African malnutrition from 'an epidemic problem, to an endemic one for which colonialism had little responsibility and over which it could exercise little control.'[84]

The promotion of protein malnutrition as Africa's greatest nutritional concern complimented this more general process. The high incidence of kwashiorkor in Uganda, for instance, never earned much consternation from London. Despite reservations from Hennessey and Hall inside the Protectorate, the research undertaken by Trowell and others in Uganda came to be considered a boon to the British Empire. At the end of his speech inaugurating Kampala's new Makerere Medical School in 1951, the Colonial Secretary, James Griffith, announced that 'the medical school is known throughout the whole of Africa … for the magnificent research work of Dr. Hugh Trowell.'[85] As Jennifer Tappan has explained, Makerere was taken by the MRC's chief executive, Sir Harold Himsworth, to be a 'model for medical research in the tropics.' Although Himsworth expected Makerere to be built on universalistic understandings of health, kwashiorkor research found political favour in the metropole because it also fit with exceptionalist ideas of African primitivism, African diet and the African disease environment.[86]

---

[80] TNA/CO/323/1570/7, Committee on Nutrition in the Colonial Empire, Economic Advisory Council: papers circulated, 1938. Response from the Gold Coast government to a circular requesting 'A summary of information regarding nutrition in the Colonial Empire', 29/6/1938.
[81] Worboys, p. 218.
[82] A.I. Richards, *Land, Labour and Diet in Northern Rhodesia: An Economic Study of the Bemba Tribe* (London: Oxford University Press, 1939), p. 3.
[83] Worboys, p. 221.
[84] Worboys, pp. 222–23.
[85] RH, Trowell, *Interview*.
[86] Jennifer Tappan, '"A Healthy Child Comes from a Healthy Mother": Mwanamugimu and Nutritional Science in Uganda, 1935-1973' (unpublished PhD, Columbia University, 2010), pp. 99–106.

This is a crucial distinction which deserves to be stressed. Although, as Helen Tilley has recently argued, we should avoid discussing a coherent 'colonial science' which worked in pursuit of an imperial agenda, governmental involvement augmented the way that some of these ideas were disseminated.[87] Individual scientists were explicitly critical – see Purcell's angry publications, Williams' later work in Singapore, or Richard's anthropological surveys. Others, such as Trowell and Welbourn, were implicitly subversive and implicit cultural biases were regularly upended by interactions with African medicine. However food, and especially the lack of food, made for delicate politics in imperial Africa and the dissemination of contentious and politically sensitive ideas was muddied by state intervention in the scientific process.

Endemic, mild manifestations of kwashiorkor – considered 'so common that many doctors would regard it as almost normal' – were still understood via the curious interaction between eugenics and nutritional science and acted as useful justifications for colonial authority.[88] In the Gold Coast, Purcell had earlier explained that 'the men of Akim are generally regarded as being weak-willed, lazy and cowardly … such inferiority may be attributed to their diet.'[89] Brock and Autrets' 1952 WHO report extended similar speculations across the continent, explaining that 'it would not be too far-fetched to attribute to that protein deficiency, at least in part, the backwardness of the African people.'[90] Even in 1979, Jack Davies would go on to ask his Johannesburg audience 'how much did this nutritionally-induced apathy contribute to the docility of Negro slaves?'[91] This does not mean to dispute African distinctiveness or even the uniqueness of African hunger but to instead stress that African alterity was recognised by colonial administrators, dispersed amongst the metropolitan public and utilised for imperialist ends.

c. *Colonising kwashiorkor: foreign medicine and indigenous knowledge*

Cicely Williams was remarkable in part because she 'listened to the Ga', responding to the languages and cultures she encountered with a degree of sensitivity uncommon in

[87] Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago: University of Chicago Press, 2011).
[88] Brock and Autret, p. 34.
[89] Quoted in Trowell, Davies, and Dean, *Kwashiorkor*, p. 243.
[90] Brock and Autret, pp. 32–33.
[91] J.N.P. Davies, *Pestilence and Disease in the History of Africa* (Johannesburg: Witwatersrand University Press, 1979), p. 8.

colonial doctors practicing in the 1920s. She was not adverse to referring patients to traditional healers and, at one point, brought traditional remedies to London for chemical analysis.[92] In her second paper on kwashiorkor, she began by explaining that kwashiorkor is understood by the Ga as 'the disease the deposed baby gets when the next one is born.'[93] Again, in her MD thesis, she recognised 'the most uncomprehending indignation, rage and bitterness in a child of three years old who found that his place on his mother's back was suddenly usurped by a new baby.'[94] Obstinate in his disregard of Williams' work, Stannus brushed such arguments aside, stating that the transliteration of kwashiorkor was irrelevant and a 'common superstition' since even 'among the Wa-yao of Central Africa the disease, whatever it may be, is called *litango lya kututa* – each successive child is said to push (*kututa*) the previous one into its grave.'[95] Operating within the reductive nutritionist dietetic, colonial consensus narrowly framed kwashiorkor as a dietary deficiency, eventually plumping for a shortage of protein as its defining cause. Clearly, however, the aetiology of kwashiorkor was understood by the colonised in a very different way. In 1954, Trowell et al listed some thirty-two names for kwashiorkor taken from a handful of African and Asian countries, many of which suggest the same social aetiology of the disease – short birth spacing and short breastfeeding durations.[96] On the other side of the world, Basil Thompson, an administrator-cum-anthropologist in Fiji at the end of the nineteenth century, discussed '*ndambe*, a term the Fijians used to describe the injury sustained by a child whose parents cohabited too soon after its birth.'[97] By the 1950s, in Fiji as in Uganda, kwashiorkor was 'a disease of the weaning period only … caused by a shortening of the suckling period due to a breakdown in Fijian custom and the imitation of European weaning practices.'[98] For those prone to the disease, kwashiorkor did not necessarily related to diet but was instead tied to household makeup, conjugal responsibility and the highly personal intricacies of childrearing.

---

[92] J. Stanton, 'Listening to the Ga: Cicely Williams' Discovery of Kwashiorkor on the Gold Coast', *Clio Medica*, 61 (2001), 149–71; Sally Craddock, *Retired except on Demand: The Life of Doctor Cicely Williams.* (Oxford: Green College, 1983), pp. 70–71.

[93] Cicely D. Williams, 'Kwashiorkor: A Nutritional Disease of Children Associated with a Maize Diet', *The Lancet*, 226 (1935), 1151.

[94] Cicely D. Williams, 'The Mortality and Morbidity of the Children of the Gold Coast' (unpublished MD, University of Oxford, 1936), p. 35.

[95] Williams, 'Kwashiorkor'; Hugh S. Stannus, 'Kwashiorkor', *The Lancet*, 226.5856 (1935), 1207–8 (p. 1207).

[96] Trowell, Davies, and Dean, *Kwashiorkor*, p. 283.

[97] B. Thomson, *The Fijians: A Study of the Decay of Custom* (London: William Heinemann, 1908), pp. 75–78; P.E.C. Manson-Bahr, 'Fijian Kwashiorkor', *Documenta de Medicina Geographica et Tropica*, 4 (1952), 97.

[98] Manson-Bahr, p. 106; Welbourn, 'The Danger Period During Weaning'.

While undernutrition was innately problematic, endemic kwashiorkor could be utilised as a tool for colonial governance partly because the medicalisation of the disease had stripped it of this social context. However, any endemic presentations of kwashiorkor should more accurately be seen as the result of Empire-wide changes to indigenous domestic economies. As a reaction to various factors – from the onset of cash-crop economics and capitalist modes of production, to the promotion of pronatalist policies, to colonial attacks on African family structure – protracted breast-feeding and sexual abstinence were increasingly untenable and birth spacing durations decreased almost universally across the continent.[99]

Disregarding indigenous, socialised understandings of health furthered a simplistic and reductive understanding of kwashiorkor. Reducing kwashiorkor to a deficiency, an absence of protein and a lack of protein foods, allowed for kwashiorkor to be presented as a failure on the part of the mothers, the community and the generalised African food environment. Reducing kwashiorkor in this way justified a paternalistic colonial mission, presenting dietary deficiencies as further justification for European cultural hegemony.[100] Williams' 1936 transfer to Malaya restricted her ability to work on kwashiorkor but even she had used the existence of a narrowly-defined deficiency to explain that 'the idea that the "simple savage" has instinctive knowledge in caring for her children is without foundation.'[101]

It took two decades for kwashiorkor, as Williams's described it, to be accepted into the medical lexicon. However, when it was, the medicalised use of the word ignored much of the word's original context. Kwashiorkor was a *'ju-ju'* word among the Ga and one which was not often said aloud. Williams had apparently been stationed in the Gold Coast for three years before she heard the local name for a condition she had been seeing with some regularity.[102] In 1960s Uganda, Mary Ainsworth expanded John Bowlby's attachment theory of child development to explain kwashiorkor in relation to *anorexia nervosa*, caused by the child's perceived abandonment after the abrupt onset of weaning.[103] Similar psycho-social definitions underpinned Ga understandings of

[99] R. Schoenmaeckers and others, 'The Child-Spacing Tradition and the Postpartum Taboo in Tropical Africa: Anthropological Evidence', in *Child-Spacing in Tropical Africa: Traditions and Change*, ed. by H.J. Page and R. Schoenmaeckers (New York: Academic Press, 1981), pp. 25–71.
[100] The colonial creation of kwashiorkor has also been discussed by Scott-Smith. Tom Scott-Smith, 'Defining Hunger, Redefining Food: Humanitarianism in the Twentieth Century' (unpublished D.Phil, University of Oxford, 2014), pp. 248–55.
[101] Cicely D. Williams, 'Child Health in the Gold Coast', *The Lancet*, 231.5967 (1938), 97–102 (p. 99).
[102] Craddock, p. 62.
[103] Mary D. Salter Ainsworth, *Infancy in Uganda: Infant Care and the Growth of Love* (Baltimore: Johns Hopkins Press, 1967).

kwashiorkor too. One doctor explained that kwashiorkor 'applies to the psychological condition … in general conversation, if a child is crying, one might say to it, "what is your mother pregnant, are you getting kwashiorkor?"'[104] The anthropologist Margaret Field gave a more detailed account in the 1930s:

> 'If the coming child is a second child the first child is likely to come under an influence known as *kwasiɔkɔ* [kwashiorkor]. This is a special kind of jealousy. Young children and babies can perceive far more than grown people and the first child soon begins to know that there is another one coming.[105]

When the second baby is born, the first 'resents the withdrawal of the mother's attention … and may even die from sheer chagrin.' Children at risk were to be 'treated with great patience, understanding, and humour.'[106] In this context, kwashiorkor may more properly have been used to suggest a broken taboo or a mildly accusatory acknowledgement of a fundamentally social problem. Whatever the exact definition, kwashiorkor was part of a complex system of Ga social welfare based around religion, spirituality and those communalistic ideas of health which were summarily discarded with the onset of colonial medicine.

Michael Worboys has suggested that colonial interest in malnutrition was notable because it 'did not involve the creation of an exceptionalist, tropical nutritional science.'[107] Although nutrition research generally assumed a commonality denied by the geographical specificity of 'tropical medicine', Worboy's assertion does not really stand up in the case of kwashiorkor. Following the popularisation of the Ga word, both the history and the terminology of the disease have tied protein deficiencies specifically to the African continent. In 1952, Brock and Autret specified that kwashiorkor is 'a nutritional syndrome (or syndromes) found among indigenous Africans', later explaining that 'any clinical syndrome which includes these five characters and occurs in Africa can undoubtedly be called kwashiorkor.'[108] Although they acknowledge that kwashiorkor may occur elsewhere, an African origin became a core part of its pathology. The conceptualisation of kwashiorkor as an inherently African problem also promotes an ahistorical understanding of the disease. For instance, Yarom and McFie's 1963

[104] WL/PP/CDW/L.1 /, G. Saunders to M. Autret, 9th October 1953.
[105] M.J. Field, *Religion and Medicine of the Gã People* (Oxford: Oxford University Press, 1937), p. 165, n.b., although Field is publishing sometime after Williams, it seems likely that she is unaware of Williams' publications, the spelling and description of kwashiorkor as well as its conceptualisation differ significantly. Field also has some experience in mental health, working at Maudsley Hospital 'on the Biochemical aspect of Mental Pathology' in in 1927 (Field, p. v).
[106] Field, p. 177.
[107] Worboys, p. 222.
[108] Brock and Autret, pp. 11, 30.

conclusion that 'kwashiorkor has always been prevalent in the Kasai Province of South-East Congo' denies the disease any history in the Congo, let alone a history relevant to its treatment or prevention.[109] This was part of a more general pattern which promoted Africa as a place of perpetual hunger and nutrition-related ill-health. Speaking in Johannesburg in 1979, Jack Davies, the pathologist most closely concerned with the early biology of kwashiorkor, explained that the history of Africa has always been marred by 'inadequacies of diet' and 'frequent famines' which contributed to the 'appalling child mortality' seen apparently since time immemorial. Davies went on to explain that 'most of the foods which constitute the current dietary staples of African people have been developed elsewhere and introduced into the continent, and it has puzzled some investigators as to just what were the dietary staples prior to the introduction of these foods.'[110] The colonial promotion of kwashiorkor as both the world's foremost nutritional concern and as a particularly African tropical disease sits comfortably within this narrative. Framing hunger and malnutrition as Africa's natural lot obstructs any critical appreciation of nutritional change in Africa and also contributes to the fetishisation of an ahistorical form of African poverty entirely dissociated from the effects of colonial rule.

With the apparent prevalence of such deprivation, the goodness of the Western diet stood in stark contrast with that endured by the average African. As part of a push to promote Western diets, the Gold Coast Medical and Education Departments released a cookbook in 1953. While *Gold Coast Nutrition and Cookery* did cover *kenkey*, *fufu*, *tuo zaafi* and the various starchy paps commonly consumed across the country, many of its three-hundred pages covered culinary cultural incongruities which used cheeses, meats and milk to produce pies, tarts, even soufflés and groundnut macaroons.[111] More problematically, the sections which regarded infant feeding, emphasised that 'breastmilk, even during the first six months of a baby's life does not completely supply his needs, and it must be supplemented by other foods.'[112] Published in Edinburgh and prohibitively expensive in the Gold Coast, *Gold Coast Nutrition and Cookery* had limited reach but clearly presents an imperialised ideal nonetheless.

Backed by a politically reactive and socially uninterested nutritional science, the colonial administration laid the educational groundwork for the epidemic marasmus or 'bottle-

[109] R. Yarom and J. McFie, 'Kwashiorkor in the Congo: A Clinical Survey of a Hundred Successive Cases in the Kasai Province', *The Journal of Tropical Pediatrics and Environmental Child Health*, 9 (1963), 56–63 (p. 56).
[110] Davies, pp. 4, 7–8.
[111] Gold Coast Government, *Gold Coast Nutrition and Cookery* (Edinburgh: Published for the Gold Coast Government by T. Nelson and Sons, 1953).
[112] Gold Coast Government, p. 280.

feeding-diarrhoea syndrome' seen in the later colonial period.[113] Despite the recognition that most cases of marasmus resulted from the substitution of breastmilk – the cause of which was the use of cow's milk, sweet tea or formula in place of breast-milk and often through unsterilized bottles – international nutritional science continued to promote unsuitable and expensive foreign diets.[114] While this rise of marasmus was also tied to economic and domestic change, as well as the predatory marketing of breastmilk substitutes, the endorsement of colonial medicine ensured that the manufacturers of these products found a receptive market. The perception that formula was a modern, sophisticated way to feed a child opened the door for the rise of what Jelliffe describes as 'commerciogenic malnutrition' or what Welbourn had earlier explained as a 'problem of modern civilisation.'[115] In the Gold Coast, Purcell would highlight that 'the condition of the infants indicate strongly that breastmilk is often of poor quality.' At the Oda Weighing Clinic, bottle-fed Baby Kofi 'differed from all the other babies in that he was plump, robust and constantly cheerful … The healthy gleam of his eyes was sufficient to distinguish him from the other babies, all of them breast-fed.'[116] Even Cicely Williams – who would so famously argue that the promotion of formula over breastmilk was 'murder' and 'the most criminal form of sedition' – had, two years earlier in the 1937 Gold Coast *Handbook of Nursing*, recommended that 'milk should be given with every feed until a child is 18 month old and every day till he is 10 years old.'[117] In fact, Williams was so optimistic about the potential for artificial feeding that she sought to acquire an official endorsement of Nestlé's tinned milk.[118] As the nutritionist discourse developed, the official aetiology of African malnutrition quickly and curiously shifted. Initially a problem resulting from unmodern childcare, malnutrition soon became a problem resulting from the improper modernisation of childcare. Despite this, its medicine, both curative and preventive, remained similar, bound as it was to expatriate expertise.

---

[113] H.F. Welbourn, 'Bottle Feeding: A Problem of Modern Civilization', *Journal of Tropical Pediatrics*, 3.4 (1958), 157–66.

[114] F.J. Bennett and J.P. Stanfield, 'The Clinical Conditions and Aetiology of Malnutrition in Uganda', in *Nutrition and Food in an African Economy*, ed. by V.F. Amann, D.G.R. Belshaw, and J.P. Stanfield (Kampala: Department of Rural Economy, Makerere Library, 1972), pp. 1–9 (p. 4).

[115] D.B. Jelliffe, 'Commerciogenic Malnutrition?', *Nutrition Reviews*, 30.9 (1972), 199–205; Welbourn, 'Bottle Feeding'.

[116] Purcell, *Diet and Ill-Health*, p. 15.

[117] C.D. Williams, *'Milk and Murder': Reprint of a Speech given to the Singapore Rotary Club, 1939* (Penang, Malaysia: International Organization of Consumers Unions, 1986), p. 5; WL/PP/CDW/B.1/3, Gold Coast Handbook of Nursing. Children's Section, Accra, 1937.

[118] PRAAD/A/CSO/11/6/4, Infant welfare centres – Principles, 1931-32, C.D. Williams to Deputy Director of Health Services, 18/1/1932.

The promotion of particular childcare and child-feeding regimens was part of a broader manipulation of African domesticity. The colonial construction of motherhood in the Empire closely followed the Victorian construction of feminine morality in the metropole. The division drawn between home and work in industrial Britain allowed for the isolation of production and the invention of the working class housewife, where marriage, homemaking and motherhood became the womanly ideal, irrespective of class or economic standing.[119] Deviations from these ideals were understood as a primary cause of African ill-health.[120] Imagined epidemics of syphilis were, for instance, understood as symptoms of African immorality and bound up in racialized notions of African promiscuity.[121] Infant mortality was also attributed to endemic 'social diseases.' The 1931 Save the Children International Union's convention blamed poverty, 'native midwives and their unhygienic practices', maternal 'carelessness', 'irrational feeding of infants', superstition and, finally, lack of sufficient medical aid.[122]

In the rainforests of equatorial Africa, Jan Vasina has described how, under colonial rule, 'the cognitive part of the old tradition, its very core, went into irreversible crisis. The people of the rainforest began first to doubt their own legacies and then to adopt portions of the foreign heritage.'[123] As part of the process of colonisation, science was used to devalue indigenous knowledge. Over the course of the twentieth century, indigenous understandings of health and child welfare declined in response to a colonial medical establishment which exalted scientific understandings of illness and promoted technical approaches to its relief. However, the science behind tropical medicine was still fresh and often blinkered by racialized preconceptions regarding African health and diet. Although kwashiorkor was a very real problem in twentieth-century Africa it was, at least to some extent, also a figment of the colonial imagination and a colonial fiction written to oblige an imperial mandate. Peddled by the same scientific expertise, technical approaches to the relief of kwashiorkor have also been used to justify and reinforce colonial control over the minutiae of food, diet and childcare. The perseverance of problematic and uniquely colonial conclusions regarding malnutrition has allowed for the continuing promotion of often malign nutrition-care practices across the Global South [see Chapter 6]. Approaching nutrition from an ahistorical view of health in the

[119] Anna Davin, 'Imperialism and Motherhood', *History Workshop Journal*, 5 (1978), 9–65.
[120] Vaughan, pp. 1–29.
[121] Carol Summers, 'Intimate Colonialism: The Imperial Production of Reproduction in Uganda, 1907-1925', *Signs*, 16.4 (1991), 787–807 (pp. 793–99).
[122] Jean Allman, 'Making Mothers: Missionaries, Medical Officers and Women's Work in Colonial Asante, 1924-1945', *History Workshop*, 38 (1994), 23–47 (p. 23).
[123] Jan Vansina, *Paths in the Rainforests: Toward a History of Political Tradition in Equatorial Africa* (London: James Currey, 1990), p. 247.

'heart of darkness', colonial medicine never actively engaged with the structural, economic aspects of nutritional illness. Instead, the conceptualisation of malnutrition left a sad legacy which continues to obstruct our view of health in the African past while simultaneously contributing to a culture of colonial apologism.

2. DEMOGRAPHIC DIMENSIONS OF POVERTY AND NUTRITION IN THE PRECOLONIAL NINETEENTH CENTURY

The colonial invasion brought with it urbanisation and industrialisation, cash-crop agriculture, globalised economics and massive, structural changes to the relationships previously fundamental for food security in Africa. Over a relatively short period, the relationship between land, labour, food and family adjusted to a new economic paradigm. How these changes affected the continent's susceptibility to famine, relative to the immediate precolonial period, has been the subject of a number of fine histories.[1] However, colonialism also impacted on the nutritional status of African peoples, both in terms of sub-clinical deficiency and of clinically-manifested disease. Despite the massive continuing burden of nutrition-related morbidity, the historical intersection of famine and nutrition remains unclear.

For some, especially in the early twentieth century, the prevailing belief was that hunger and poor diet were unavoidable in the African environment; that African malnutrition lay in the particularities of its continental ecology. As the previous chapter suggested, this sort of thinking was useful to and actively cultivated by the colonial establishment. Others, however, promoted what A.G. Hopkins described as the 'myth of Merrie Africa', where the continent's precolonial inhabitants lived in abundance, pursuing lives of leisure which appear to have mainly consisted of 'interminable dancing and drumming.'[2] According to this view, communalism and widespread kin-based systems of social security excluded poverty from the precolonial continent. As one Lagos newspaper explained in 1913, 'the rules and regulations of every African Community leave no ground for idle women, prostitutes or vagabonds, and create no possibility for the existence of waifs and strays … no Barnardo's Homes, no Refuge for the Destitute grace the cities; because the conditions producing them are absent.'[3] This mythologised view, which was prominent well into the postcolonial period, forwarded the idea that African food insecurity was rooted solely in the shared human history of imperial exploitation, the chaos of the slave trade and the socioeconomic disruption of colonial capitalism.

[1] For instance, Watts, *Silent Violence*; Iliffe, *Zimbabwe*.
[2] A.G. Hopkins, *An Economic History of West Africa* (London: Longman, 1973), p. 10.
[3] Quoted in, Iliffe, *African Poor*, p. 3.

A number of anthropologists working under the colonial government described the negative social impact of European authority. Max Gluckman, for instance, considered Central Barotseland a place of abundance when he visited in 1940, on his return only two years later he struggled to find food for his retinue. By 1947, he described Rhodesia's central plain as suffering from near famine conditions, a decline he put down to colonial meddling in the local economy.[4] Earlier, in the 1930s, Audrey Richards asserted that industrialisation and the flood of European goods had depleted Northern Rhodesia's rural labour force, undermining the capacity to produce food as well as the attraction to a rural lifestyle. The resulting, rapidly growing urban population was 'inadequately accommodated, cut off from contact with their land and the educational agencies to which they were formerly subject, and existing in conditions of extreme poverty.'[5] An idealised view of precolonial health fits into this broader historical construction. In terms of nutrition, Weston A. Price used an absence of dental malformations in African populations to suggest the superiority of 'primitive' precolonial diets, informing influential Marxist thinkers such as Josué de Castro and Walter Rodney in the process.[6] Richards too thought it 'small wonder that the medical officers report that the physique of natives, whether in the town or the country, is actually deteriorating and that the proportion of definite malnutrition is on the increase.'[7]

The impact of colonial rule has also been seen to extend beyond social and economic disruption to affect the ecological underpinnings of African food supply. Cash-cropping was said to have diminished the carrying capacity of the land, with soil fertility declining in a process which skewed long-standing ecological balances across the continent. Land shortages increased as population densities rose and colonial rule diminished peasant agency over agriculture, restricting the capacity for the self-regulation which had previousl secured soil fertility.[8] Of Northern Rhodesia, Leroy Vail explained that the growth of export agriculture presented 'a major ecological catastrophe' one where 'the

[4] Max Gluckman, 'The Lozi of Barotseland in North-Western Rhodesia', in *Seven Tribes of British Central Africa*, ed. by Colson Elizabeth and Max Gluckman (Manchester: Manchester University Press, 1951), pp. 1–93; William Allan, *The African Husbandman* (Edinburgh: Oliver & Boyd, 1967), pp. 152–55.
[5] Richards, p. 3.
[6] Weston A. Price, *Nutrition and Physical Degeneration: A Comparison of Primitive and Modern Diets and Their Effects.* (London: P.B. Hoeber, 1939); Josué de Castro, *The Geography of Hunger* (Boston: Little, Brown, 1952), p. 220; Walter Rodney, *How Europe Underdeveloped Africa* (Washington, D.C.: Howard University Press, 1974), pp. 236–38.
[7] Richards, p. 4.
[8] William Beinart, 'Soil Erosion, Conservationism and Ideas about Development: A Southern African Exploration, 1900-1960', *Journal of Southern African Studies*, 11.1 (1984), 52–83.

people dwelling in some of the most fertile and hospitable land … were [now] impoverished and disease ridden.'[9]

So is Merrie Africa simply myth? Less simplistic takes on this thinking are certainly not without their more modern advocates. Sjoerd Rijpma, for instance, has used the writings of David Livingstone and other early European doctors exploring Africa to suggest that poverty, malnutrition and famine were indeed limited, at least as compared with the period after 1880. Instead, Rijpma proposes that these accounts describe a continent which was generally well-fed and one where social and sexual traditions had evolved to protect children from malnutrition. Birth rates were low, encouraged by taboo as well as polygyny, most African populations had developed to exist with their ecology, nutritional illness was rare relative to the colonial period.[10] As was the case elsewhere in the world, food insecurity was generally taken to result from the social disruption which followed war, slave raids or epidemics of disease, events which often had their roots in recent interactions between indigenous populations and Arab or European traders.[11] Here the health and well-being apparent in the centre stood in contrast to the disarray on view at the coast. In *Missionary Travels*, Livingstone noted that many illnesses common in England were actually absent in Africa and that 'in the more central parts the people were remarkably kind and civil and free from disease.'[12] On the coasts, on the other hand, epidemic disease was brought in by ship, while the pull of trade goods and foreign wealth stoked social disintegration, slaving and conflict.

Recently, a number of anthropometric histories have attempted to provide an empirical basis for discussions of health and nutrition in the nineteenth century and earlier. Using height data, several studies have found that comparable food and disease environments led to remarkably similar statures on all three Old World continents in the late eighteenth and early nineteenth century.[13] The working hypothesis is that improvements in European health and nutrition in the later nineteenth century meant that average European heights rose relative to those of their African counterparts.[14] Amending those

[9] Leroy Vail, 'Ecology and History: The Example of Eastern Zambia', *Journal of Southern African Studies*, 3.2 (1977), 129–55 (p. 129).
[10] Rijpma, 'Malnutrition', pp. 56–57, 52.
[11] Sjoerd Rijpma, *David Livingstone and the Myth of African Poverty and Disease: A Close Examination of His Writing on the Precolonial Era* (Leiden: Brill, 2015).
[12] Quoted in Rijpma, *Livingstone*, p. 447.
[13] Richard H. Steckel, 'Heights and Human Welfare: Recent Developments and New Directions', *Explorations in Economic History*, 46.1 (2009), 1–23; Joerg Baten and Matthias Blum, 'Growing Tall but Unequal: New Findings and New Background Evidence on Anthropometric Welfare in 156 Countries, 1810–1989', *Economic History of Developing Regions*, 27 (2012), S66–85.
[14] Austin, Baten and Van Leeuwen, p. 1281.

more complex histories of African poverty which began with Hopkins and others in the 1970s, the innovative use of this biological data suggests that Africa was not a nutritional backwater in the years before more direct European involvement.

However, whether such conclusions should be stretched across Africa is unclear. Although useful generalisations can be made to span the continent, those dealing with hunger and poverty often ignore important deviations from even largely convincing assumptions. Prior to the colonial invasion, Ghana, for instance, was a patchwork of economies bounded by ecology and reinforced by ethno-politics and military power. The north-south discourse in modern Ghanaian politics has its foundations in this precolonial diversity. The harsh ecology of the northern savannah – defined by low soil fertility, short growing seasons and sporadic drought – contrasts with the alluvial soils, consistent rainfall and agricultural security of the southern forests. In these distinct environments, poverty and hunger acted in markedly different ways and complicates analyses applied by pan-African histories of hunger. In Asante, for instance, those studies which associate poverty with hunger are problematic, while they are less so in the North. Cultural signifiers of wealth and poverty evolved in largely incomparable societies and in reaction to the demands of localised environments. If poverty, as it could be understood in the nineteenth-century savannah, was absent in Asante, the more recent history of poverty in the country is all the more interesting as the Gold Coast, a new geography, was transformed by the forces of colonialism and globalisation.

a. Conceptualising poverty in relation to nutrition

Although the history of nutrition has enjoyed a considerable degree of recent interest, many histories stand aloof from the conceptual problems necessary to understand malnutrition in the historical context. In view of the complex aetiology of malnutrition, habitually defining malnutrition as 'a sensitive indicator of poverty' and a facet of food insecurity is overly simplistic.[15] As an often fleeting biological standard, adequate nutrition or good nutritional status cannot necessarily indicate long-term food security. Meanwhile, although nutrition security cannot be achieved without food security, it is also dependent upon good health and adequate care. Assuming that nutrition can be used as a yardstick for poverty or food insecurity, without first comparing regional and ecological differences in the nature of poverty, food supply and nutrition, sweeps over important spatial differences in the aetiology of malnutrition and skirts around those

[15] Iliffe, *African Poor*, p. 161.

social and cultural determinants of nutritional status which are affected by geography and cultural norms can act independently of wealth.

We must also keep in mind that nutrition is not driven by inputs alone. Labour demands and the effects of ill-health are spatially and temporally dependent and important determinants of community nutrition. For instance, economic developments which may generate wealth, such as the expansion of labour-intensive mining or of cash-cropping sectors, will also increase demands for food. Similarly, the disease environment influences localised patterns of malnutrition but does not necessarily interact with poverty in a linear fashion. For instance, roads and train tracks brought influenza and smallpox but also wealth and development.[16]

In some respects, however, the ready conflation of poverty and malnutrition is fairly apposite. In parts of Africa where food insecurity is widespread, equating poverty with an absolute lack of food is often understandable. This 'absolute' poverty, being a failure to maintain physical efficiency, is explicitly concerned with the acquisition of food. It is this approach that John Iliffe took in his comprehensive history of African poverty. Working from older histories of European poverty, Iliffe defines the 'poor' as those who are obliged to struggle continuously to preserve themselves and their dependants from physical want while the 'very poor', or 'destitute', are those who 'have permanently or temporarily failed in that struggle and have fallen into physical want.'[17] Iliffe goes on to explain poverty as either structural – 'long term poverty of individuals due to their personal or social circumstances' – or conjunctural – 'temporary poverty into which ordinarily self-sufficient people may be thrown by crisis.'[18] In the labour-scarce, land-rich generalisation of precolonial Africa, structural poverty resulted from a dearth of labour and an inability to exploit abundant land.[19] The structural poor included the elderly or infirm who lived without familial support, as well as members of weak or insubstantial households. In land-scarce societies, by contrast, poverty results from an inability to acquire requisite land or sell one's labour for a requisite wage. Conjunctural poverty may afflict an individual through illness, a region through drought, or a nation through war.

Absolutist definitions of either structural or conjunctural poverty assume a failure of acquisition which, of course, remains both spatially and temporally dependent. In

[16] James W. Brown, 'Increased Intercommunication and Epidemic Disease in Early Colonial Ashanti', in *Disease in African History: An Introductory Survey and Case Studies*, ed. by K. David Patterson and Gerald W. Hartwig (Durham, N.C.: Duke University Press, 1978), pp. 180–207.
[17] Iliffe, *African Poor*, p. 2.
[18] Iliffe, *African Poor*, p. 4.
[19] Hopkins.

subsistence economies, the basic content of diet is still largely defined by ecological niche. However, diets are buoyed and deficiencies averted with the addition of non-staple foodstuffs which are more likely to be acquired by purchase, barter, foraging or hunting. The availability of such supplementary foods is often determined by personal or local degrees of wealth. Even those dietary augmentations less reliant on capital – hunting or foraging for instance – require a degree of wealth in labour. In this respect, the analysis of protein-energy malnutrition relates to the study of famine, food security and food acquisition. Due to different modes of production and acquisition, the poorest strata in even food secure environments might endure nutritional deficiencies other than total-calorie shortages as a result of their inability to obtain more nutritious foods. While individuals or families may escape frank starvation through charity, remittances or their own hard work, the route to a balanced diet is not necessarily so readily available. Malnutrition may then derive from an inability to obtain a basket of foods which combine to form a wholly sufficient diet.

By co-opting sensitive approaches to the analysis of famine, we can begin to consider malnutrition as a symptom of absolute poverty. Central to most modern analyses of hunger, Amartya Sen's 'entitlement approach' has directed attention away from supply-side theories of famine by promoting the idea that famine mortality generally results from demand failure. Entitlement analyses have helped to explain why, even in clear-cut supply-side failures, or food availability decline (FAD) famines, particular demographics are more or less prone to hunger.[20] For instance the 1944 Dutch Hongerwinter, caused by Nazi food blockades, promoted an atypical blanket decline in food availability. However, individuals with social and economic influence were able to secure 'extra-legal resources [which] doubled the extremely meagre official ration.'[21] If famine mortality is determined by socioeconomic intricacies and group-specific demand failures, then it is reasonable to assume that malnutrition may be too. In fact, frank starvation is only the most extreme failure of entitlement. By contrast, the Kampala-based MRC Nutrition Unit acknowledged that 'changes in the family's economic position, brought about by losses through theft, or the failure of a crop, although causing no more than a temporary lowering of living standards, may become a major disaster for a young child.'[22] Approaching clinical malnutrition, in terms of both quantity and quality, as a symptom

[20] Sen.

[21] Zena Stein, *Famine and Human Development: The Dutch Hunger Winter of 1944-1945* (Oxford: Oxford University Press, 1975), pp. 47–51.

[22] TNA/FD/12/273, Medical Research Council, Child Nutrition Research Unit (Formerly Infantile Malnutrition Research Unit), Kampala, Uganda, 1961. 'Infantile Malnutrition Research Unit: Progress Report, January 1962.'

of entitlement failure grants a flexible apparatus to discuss malnutrition as an absolutist shortfall at the microeconomic level.

Although poverty clearly interacts with malnutrition in an absolutist sense, food markets, diets and child rearing practices are heavily influenced by the sociocultural environment as well. While malnutrition is symptomatic of physical want, it is a subconscious deficit which manifests in ill-health, rather than in any conscious desire for particular foods. Increasing income, therefore, does not necessarily foreshadow an immediate improvement in nutritional health. For instance, the recent 'nutrition transition' in lower and middle income countries, has correlated increasing income amongst the poor with a detrimental shift in the source of calories from complex-carbohydrates to high-fat and high-sugar foods, as well as a corresponding increase in diet-related non-communicable disease [see also Chapter 7].[23]

With this in mind, how should we consider the way that malnutrition has interacted with poverty in food- and nutrition-secure parts of Africa? How has poverty related to those nutritional deficiencies caused by infant feeding, the use of breast-milk substitutes or to the consumption of processed food in general? These deficiencies are not exclusively derived from an absolute inability to acquire a particular basket of foods. Any attempt at historicising malnutrition has to therefore temper and discuss the economics of nutritional deficiency in view of shifting, localised food cultures, domestic economies and medical anthropologies – or what some nutritionists once termed 'cultural blocks.'[24] This fits food economics into the anthropological study of diet, a subject which received considerable interest throughout the twentieth century.[25]

Since the historical epidemiologies of various deficiencies relate to spatially specific environments, we also have to consider the economic determinants of malnutrition in their distinct geographical and historical contexts. For instance, in Africa, a number of studies of urban-rural differences in protein-energy malnutrition have found that rural nutrition trails behind urban areas, even after controlling for socioeconomic status and related covariates.[26] Parental knowledge, medical access and understanding, food

[23] Barry M. Popkin, 'The Nutrition Transition in Low-Income Countries: An Emerging Crisis', *Nutrition Reviews*, 52.9 (1994), 285–98; Shufa Du and others, 'Rapid Income Growth Adversely Affects Diet Quality in China—particularly for the Poor!', *Social Science & Medicine*, 59.7 (2004), 1505–15.
[24] D.B. Jelliffe, 'Social Culture and Nutrition: Cultural Blocks and Protein Malnutrition in Early Childhood in Rural West Bengal', *Pediatrics*, 20.1 (1957), 128–38.
[25] Ellen Messer, 'Anthropological Perspectives on Diet', *Annual Review of Anthropology*, 13 (1984), 205–49.
[26] Lisa C. Smith, Marie T. Ruel and Aida Ndiaye, 'Why Is Child Malnutrition Lower in Urban Than in Rural Areas? Evidence from 36 Developing Countries', *World Development*, 33.8 (2005), 1285–1305.

availability, food preferences, child rearing practices and patterns of fertility vary markedly across and inside countries. Any medical history of malnutrition clearly has to first consider such spatially dependent social differences before inserting them into the wider historical narrative. Such a history has to question the relationships between environment, poverty and malnutrition, and to ask how these relationships have changed with time.

Absolutist ideas of malnutrition can therefore only take us so far. Poverty, however, can also be thought of as a relative problem. Peter Townsend has been most prominent in promoting the idea that poverty is relative to place and time and that any definition of poverty must arise from the social reality of the society in question. In this sense, poverty arises when a group or individual lacks the means to obtain the diets, living conditions and amenities which are the social prerequisites for an ordinary existence in their respective societies.[27] As Townsend explains, this means that:

> 'People's needs, even for food, are conditioned by the society in which they live and to which they belong, and just as needs differ in different societies so they differ in different periods of the evolution of single societies. Any conception of poverty as 'absolute' is therefore inappropriate and misleading.'[28]

Relative ideas of poverty are not necessarily concerned with food in the sense of fundamental want. Instead there is a conscious understanding of one's own poverty. Individuals can be healthy and well-nourished but, if their material lives lag behind those of their neighbours, they can still be considered and can consider themselves poor. Conversely, food is factored into household economies in view of a number of other demands. Here, good nutrition may be consciously or subconsciously sacrificed in the face of another, more pressing need. Such definitions of poverty become even more interesting in the context of globalisation and after the social amalgamation of colonial rule stretched understandings of social prerequisites across diverse and previously distinct societies.

This study is not in a position to speak to the strength of any one definition of poverty. However, it does seek to utilise and modify various understandings of poverty – none of which were developed with a mind to the medicine of malnutrition – in order to discuss how nutrition interacts with poverty and how the history of African poverty has affected

[27] Peter Townsend, 'Poverty as Relative Deprivation: Resources and Style of Living', in *Poverty, Inequality & Class Structure*, ed. by Dorothy Wedderburn (Cambridge: Cambridge University Press, 1975), pp. 15–42 (p. 15).
[28] Peter Townsend, *Poverty in the United Kingdom: A Survey of Household Resources and Standards of Living* (Berkeley: University of California Press, 1979), p. 38.

the nature of African malnutrition. Although the microeconomics of poverty and famine are essential to our understanding of malnutrition, nutrition does not interact with economics in a linear fashion. Nutritional status, as well as the aetiology and epidemiology of individual clinical deficiencies, are first mediated by the social and cultural environment of a given time and place. In order to formulate a history which can contribute to the understanding of continental patterns of nutrition, hunger and poverty we have to walk modern ideas of nutritional science through the distinct histories of distinct societies. In Ghana, this requires us to first think about the various ways that poverty and nutrition interacted in the period immediately prior to its colonisation.

b. *Poverty amidst plenty: nutrition, class and family in precolonial Asante*

In nineteenth century Asante, there was no real destitution, at least in terms of frank starvation. The same social and agricultural systems which afforded Asante their powerful political position also provided some freedom from extreme poverty and physical want. Indeed, diaries and chronicles from early Europeans visiting the Gold Coast forest were replete with descriptions of the country's 'spontaneous abundance.'[29] In the late nineteenth century, T.B. Freeman wrote that;

> 'In these bright and sunny regions nature is also bountiful in its supplies of suitable vegetables and fruits – the yam, cassada, Indian corn, sweet potato, cocoa-bulb … millet, rice, sugar-cane, ginger, tomato, onion, ground-nut, orange, lime, plantain, banana, sour-sop, custard apple, and last not least, the noble pineapple, all flourish in Asantee, under ordinary cultivation.'[30]

Lying between Asante and the sea, the Fante forest was also a place in which 'yams, bananas, plantains and papas [sic] flourished without culture … in a state of natural perfection.'[31] In Axim, too, Burton and Cameron were struck by the fact that 'they are never pinched for food, and they have high ideas of diet.'[32] Later in the century, George Macdonald, then the colony's Director of Education, wrote that Asante agriculture supplied 'the natives with such a continuous succession of crops, that famine and want

[29] T.E. Bowdich, *Mission from Cape Coast Castle to Ashantee: With a Statistical Account of That Kingdom and Geographical Notices of Other Parts of the Interior of Africa* (London: John Murray, 1819), pp. 273–74.
[30] T.B. Freeman, 'Life and Travels on the Gold Coast', *The Western Echo* (Cape Coast, 6 March 1868), p. 8.
[31] Dupuis, p. 6.
[32] Richard Francis Burton and Verney Lovett Cameron, *To the Gold Coast for Gold: A Personal Narrative* (London: Chatto and Windus, 1883), p. 95.

of food are absolutely unknown.'[33] Although social disruption could curtail some of the more diverse forest products, even this did not necessarily precede widespread food insecurity. As Freeman explains of the Akan Adansi, who had 'kept up a more or less chronic war with their more powerful neighbours, in which they had generally been worsted';

> 'In every village there was a large plantation of plantains and another of pawpaw trees. These appeared to be common property, and their fruits together with that gathered from the oil-palms in the forest seemed to form the principal and almost the only sustenance of the inhabitants.'[34]

Despite being a 'country where not a living soul was to be met with, all the inhabitants having been either killed, captured, or driven out by the conquering Ashantis', even Adansi food production had not entirely collapsed.[35] McCaskie has gone so far as to say that 'in the entire corpus of Asante tradition and European commentary, the only accounts of severe food shortages, widespread hunger and regional or sectoral famine are associated with the virtual collapse of subsistence agriculture affected by the five years of civil war in the 1880s.'[36]

This is largely because food farming was remarkably straightforward. Since, as Hopkins famously explained, land was 'not scarce enough to acquire a market value', land tenure was such that 'a subject could clear any part of the bush for building a house or making a plantation, without paying rent to the king or chief.'[37] Clearing the dense tropical forest, however, required a fairly large input of human labour swinging axes, cutlasses and billhooks. The farms which followed this initial exertion were oriented around the long-term, stable intercropping of high yielding foodstuffs, primarily yam, plantain cocoyam and cassava. Maize was popularised as a storable food between 1800 and 1900 but its cultivation fell away with the decline of the Asante military tradition.[38] In general, though, it was remarkably easy to provide basic sustenance to large numbers of people. Asante's food economy can, therefore, be tacked onto what Austin has called the kingdom's "broad' forest rent', the agroeconomic benefits derived from capturing forest agriculture, generally defined as supply-side savings and a lowered cost of production. As a source of wealth not necessarily achieved through market competition, Austin

[33] George Macdonald, *The Gold Coast, Past and Present: A Short Description of the Country and Its People* (London: Longmans, Green & Co., 1898), p. 69.
[34] R. Austin Freeman, *Travels and Life in Ashanti and Jaman* (London: A. Constable & Co., 1898), p. 39.
[35] R. Austin Freeman, pp. 37–39.
[36] T.C. McCaskie, *State and Society in Precolonial Asante* (Cambridge: Cambridge University Press, 1995), p. 29.
[37] Hopkins, p. 39; Macdonald, p. 289.
[38] McCaskie, *State*, p. 26.

describes the opportunities derived from forest rent as a boon to Asante production.[39] The counterpoint to this, and a further broadening of the concept, was the remarkably low cost of social reproduction proffered by the forest food economy.

Social reproduction was also at least partially insured by Asante's political centralisation. Deriving divine authority from the *Asantehene*, the paramount ruler of the Asante Empire, the state exercised some control over food supply too. For instance, fishing in Lake Bosumtwi was partially regulated from the centre, with the use of the more efficient seine nets forbidden in favour of simple cane baskets set in shallow water. However, as colonial authority usurped traditional authority, by the early 1940s it was noted that 'this prohibition is widely disregarded [and that] there is no doubt the use of the seine net has led to over-fishing.'[40] More famously, the *odwira* yam festival was used to standardise the harvest of Asante's favoured bulk food. Draconian punishments for harvesting new-season yams prior to the start of the festival suggests that the regulation of food supply and the reinforcement of food security was understood as a valuable facet of state security.[41]

With this in mind, it is difficult to discuss an absolute form of poverty based around hunger or conscious need. In the pre-cocoa past, poverty was usually paired with social isolation;[42]

> 'The poor man has no friend.'
>
> 'On the day of poverty it is then you perceive who is a friend.'[43]

Hunger, in this environment, could be alleviated through the richness of the local economy, through borrowing or hunting or fishing:

> 'Of (the two) hunger and debt, debt is preferable.'
>
> 'When a man is in want, he sleeps in the forest (i.e. to hunt and fish).'[44]

With so many routes out of poverty and away from hunger, the poor were improvident, foolish or mad:

---

[39] Gareth Austin, *Labour*, pp. 10–12.
[40] PRAAD/Kumasi (K)/ARG/6/14/7, 'Diet and Nutrition Surveys, 1940-47', E.H. Roach, Acting District Commissioner of Kumasi, to Chief Commissioner of Ashanti, 23/10/41.
[41] McCaskie, *State*, pp. 144–51; Lynne Brydon, 'Rice, Yams and Chiefs in Avatime: Speculations on the Development of a Social Order', *Africa*, 51.2 (1981), 659–77; Kwame Arhin, 'The Financing of the Ashanti Expansion (1700-1820)', *Africa*, 37.3 (1967), 283–91.
[42] For a similar folk-analysis of poverty in southern Uganda see, Kuhanen, p. 34.
[43] R.S. Rattray, *Ashanti Proverbs: The Primitive Ethics of a Savage People* (Oxford: Clarendon Press, 1916), pp. 159–60.
[44] Rattray, *Proverbs*, pp. 146, 157.

> 'Poverty is madness.'
>
> 'Poverty is stupidity.'[45]

In nineteenth-century Asante, the strength of the traditional subsistence economy cannot be overstated. In 1817, Bowdich explained the process by which the fertile environs of Kumasi could easily feed the city's large permanent population;

> 'The higher class could not support their numerous followers, or the lower their large families in the city, and therefore employed them in plantations … generally within two or three miles of the capital, where their labours not only feed themselves, but supply the wants of the chief, his family, and more immediate suite. The middling orders station their slaves for the same purpose.'[46]

As a whole, the kingdom was said to have the capacity to support a standing military which constituted as much as one-fifth of the entire population.[47] Despite Kumasi's size (several tens of thousands of people at any one time), Freeman found it 'possessing nothing deserving the name of a market.'[48] There was no way that what foods were sold could have supported the urban population, instead Kumasi operated as 'a closed system' where a class of rural labourers were employed to support themselves and their masters or kin in the city.[49]

In the precolonial nineteenth century, poverty was then largely linked to social status. Taking Wilks' definition of the Asante 'proletariat', it was the labour of the 'the *ahiafo* or under-privileged, a group including elements from both the free and unfree population', which allowed the survival of these 'superior' or 'middling' orders. The ranks of the *ahiafo* were swelled by the constant arrival of Northern slaves and supplemented by those Asante whose positions were in decline, pawns whose freedom was surrendered in debt or disgraced officials stripped of their property.[50] Inequalities in wealth left standards of living for the Asante poor far below that of the upper or middling classes.[51] Polygamy was the rule among the middle and higher classes but free Asante *ahiafo* seldom had more than one wife, most slaves remaining unmarried.[52] It was also said that, amongst the rich, 'every house had its cloacae [toilet], besides the common ones for the

[45] Rattray, *Proverbs*, pp. 159, 158.
[46] Bowdich, *Mission*, pp. 323–24.
[47] Bowdich, *Mission*, p. 316.
[48] T.B. Freeman, 'Life and Travels on the Gold Coast', *The Western Echo* (Cape Coast, 24 February 1868), p. 8; This was part of a broader pattern. Bowdich apparently 'never saw, or heard of a good public market in any part of the forest.' Bowdich, *Mission*, p. 324.
[49] McCaskie, *State*, p. 35.
[50] Wilks, pp. 705–7.
[51] Wilks, p. 443.
[52] Bowdich, *Mission*, p. 317.

lower orders without the town.'[53] Unsurprisingly, the rich in Asante were noted as 'nice and cleanly' while the 'poorer sort of Ashantees and slaves, arising from their neglect of cleanliness' were particularly prone to disease.[54]

Despite marked inequality, neither Akan *ahiafo* nor the *nnɔnkɔfɔ* (singular *ɔdɔnkɔ*), stateless slaves from outside Asante, went hungry in the kingdom. In fact, Asante's relatively small population combined with the forest's massive potential carrying capacity to drive a thirst for labour and social expansion. As European demand for slaves declined – with British enforcement of abolition arriving in the early nineteenth century – Asante increased its internal consumption of slaves in order to profit from a shift towards 'legitimate agriculture.' Slaves, as well as Asante pawns and *corvées* provided the labour necessary to reinvigorate and profit from the production and exportation of gold, rubber, kola and palm oil.[55] Although unfree, slaves had clearly defined rights while owners had similarly defined duties of care. According to C.H. Armitage, then Commissioner for the Southern District of Ashanti, 'these natives on entering their "master's" house immediately become one of the family and usually adopt the family name. They work in the interests of the family and share in its success and prosperity.'[56] Generally, the demands of the forest economy shaped slaveholding into an increasingly assimilative process where slaves 'might marry; own property; himself own a slave; swear an 'oath'; be a competent witness; and ultimately might become heir to his master.'[57] The children of slaves were born free and, according to Rattray, 'an Ashanti slave, in nine cases out of ten, possibly became an adopted member of the family, and in time his descendants so merged and intermarried with the owner's kinsmen that only a few would know their origin.'[58] Asante law also worked to prohibit those privy to such knowledge from mentioning any slave lineage.[59] In the later 1800s, the *Omahene* of Kokofu was actually destooled by the elders 'for being fond of disclosing the origin of his subjects.'[60] Slaves were usually acquired by individuals or families but, given the 'fettered multitude which could no longer be driven off to the coast directly', chiefs could also use whole communities of slaves 'to create plantations in the more remote and stubborn

[53] Bowdich, *Mission*, p. 306.
[54] Bowdich, *Mission*, pp. 306, 318, 376.
[55] Gareth Austin, 'Between Abolition and Jihad: The Asante Response to the Ending of the Atlantic Slave Trade, 1807-1896', in *From Slave Trade to 'Legitimate' Commerce: The Commercial Transition in Nineteenth-Century West Africa*, ed. by R. Law (Cambridge: Cambridge University Press, 1995), pp. 93–118.
[56] Quoted in, Gareth Austin, *Labour*, p. 117.
[57] R.S. Rattray, *Ashanti Law and Constitution* (Oxford: Oxford University Press, 1929), p. 38.
[58] Rattray, *Law*, p. 42.
[59] Rattray, *Law*, pp. 81–82.
[60] Gareth Austin, *Labour*, p. 119.

tracts.'[61] Ultimately, it was the strength of the subsistence economy that facilitated and promoted this assimilative form of slave agriculture. The food environment encouraged families to modify their domestic structures, to exploit the ecological advantage of the forest, and to expand and diversify their production. As Austin has explained, slaves were the most cost-effective *choice* to this end but they may also be seen as a productive extension of the family.[62]

Although food insecurity was essentially unknown, it is more difficult to say how Asante's social expansionism interacted with other determinants of malnutrition. While we should be wary about referencing colonial anthropology as evidence of precolonial practice, we can speculate about the nature of nutrition in earlier periods using later information as our basis. In colonial Asante, infant nutrition was secured primarily through prolonged breastfeeding. Even in the 1940s, Russell reported that 'breastfeeding is universal, and is continued for eighteen months, two years, or longer, unless the mother becomes pregnant again.'[63] Resulting from exclusive breastfeeding, lactational amenorrhea could be effective for around six months and gave mothers some respite from what was an atypical cultural tendency towards high fertility.[64] Children were also not immediately or abruptly weaned with the onset of another pregnancy and 'most women reported that they nursed the babies until the second or third month of the next pregnancy', giving the nursing baby some respite from malnutrition.[65]

However, any conscious form of birth control was limited and perhaps even discouraged in an environment where the standard puberty rite contained a prayer that 'may the elephant give you her womb that you may bear ten children.'[66] Well into the twentieth century, if such prayers bore fruit, 'a mother of ten boasts of her achievement and is given a public ceremony of congratulation.'[67] Post-partum sexual abstinence was, as a result, particularly short amongst the Asante. Warren, for instance, described an

[61] T.E. Bowdich, *The British and French Expeditions to Teembo: With Remarks on Civilization in Africa* (Paris: J. Smith, 1821), p. 18.
[62] Gareth Austin, *Labour*, pp. 117–21.
[63] Beatrice A. S. Russell, 'Malnutrition in Children under Three Years of Age in Ashanti, West Africa', *Archives of Disease in Childhood*, 21.106 (1946), 110–12 (p. 110).
[64] See, for instance, Giovanni A. Tommaselli and others, 'Using Complete Breastfeeding and Lactational Amenorrhoea as Birth Spacing Methods', *Contraception*, 61.4 (2000), 253–57.
[65] Faye Woodard Grant, 'Nutrition and Health of Gold Coast Children. II. Care and Physical Status of Children', *Journal of the American Dietetic Association*, 31.7 (1955), 694–702 (p. 697).
[66] R.S. Rattray, *Religion and Art in Ashanti* (Oxford: Clarendon Press, 1927), p. 73.
[67] Meyer Fortes, 'Kinship and Marriage among the Ashanti', in *African Systems of Kinship and Marriage*, ed. by A.R. Radcliffe-Brown and D. Forde (Oxford: Oxford University Press, 1952), pp. 252–84 (pp. 262–63).

abstinence of six months for the first child and only 40 days for each subsequent birth.[68] Fortes reported a universal post-partum abstinence of eighty days, explaining that 'denial of sexual satisfaction is an infringement of marital rights in Ashanti law and any other method of contraception would be regarded by a wife as a slur on her womanhood.'[69] Further south, amongst the Akan Akuapem and the coastal Ga there was at least some socially acknowledged relationship between short birth-spacing and high child mortality – perhaps a result of the less secure food environment – yet the post-partum taboo still rarely exceeded six months.[70] Post-partum abstinence was also lengthened in polygynous, generally wealthy, households.[71] In the cultural and economic setting of eighteenth- and nineteenth-century Asante, high fertility was hugely advantageous to the mother and to the wider matrikin, where children were a useful form of labour. More importantly, the matrilineal orientation of Akan families meant 'the influence of a lineage in public affairs is proportional to its numbers' and that children were directly relevant to the power and status of the family.[72] Ultimately, Bleek's conclusion that abortion was a 'useless, absurd practice for women' can probably be extended to all forms of birth control.[73]

Despite what might be considered a cultural propensity for malnutrition, there is little reliable evidence for widespread deficiency in the precolonial sources. This is not to say, though, that kwashiorkor was not regularly seen. In the same way that Williams found the Ga unforthcoming about their understanding of kwashiorkor, Fortes saw 'reluctance, bordering on dread, to speak about dead children', causing the Asante, 'even more than most peoples, to ignore their dead children.'[74] Where nutritional disease and death from such diseases did exist its presentation was unlikely to be readily alluded to in the presence of foreign anthropologists. However, kwashiorkor was certainly recognised by Akan peoples and, as elsewhere, was framed within a social understanding of illness. In 1940s Akim, Purcell described a form of oedematous, 'pellagroid' malnutrition, 'known everywhere as "*ahonhon.*"'[75] Around the same time, in Asante proper, Russell explained

[68] Dennis M. Warren, *The Techiman-Bono of Ghana: An Ethnography of an Akan Society* (Dubuque, Iowa: Kendall/Hunt Pub. Co., 1975), p. 25.
[69] Meyer Fortes, 'A Demographic Field Study in Ashanti', in *Culture and Human Fertility: A Study of the Relation of Cultural Conditions to Fertility in Non-Industrial and Transitional Societies*, ed. by Lorimer Frank (Paris: UNESCO, 1954), pp. 253–340 (p. 265).
[70] Barrington Kaye, *Bringing up Children in Ghana: An Impressionistic Survey* (London: George Allen & Unwin, 1962), pp. 67–69.
[71] Kaye, pp. 67–68.
[72] Fortes, 'Field Study', p. 267.
[73] Wolf Bleek, 'Did the Akan Resort to Abortion in Pre-Colonial Ghana? Some Conjectures', *Africa*, 60.1 (1990), 121–31.
[74] Fortes, 'Field Study', p. 267.
[75] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', pp. 109-10.

that 'illnesses of the displaced baby is so common that there is a general belief among the people that the unborn child exerts a direct and malign influence upon his brother.'[76] Amongst the Akuapem in the early 1960s, it was further understood that 'intercourse may affect the quality of the mother's milk and it is said that many children die as a result of this … If such a thing happens, public opinion turns against the parents, especially the father; people say that he cannot control himself, that he is a wicked and greedy person.'[77] Though clinical deficiency was probably readily recognised prior to colonisation, it is more difficult to suggest how great a problem it posed. However, it is also difficult to imagine that Asante women would subscribe to a reproductive culture which saw an obvious correlation between pregnancy and the death or conspicuous illness of their older children, especially given the degree of power wielded by women in the precolonial kingdom.

In 1964, and amidst the global obsession with protein deficiency [see Chapters 1 and 7], John Whiting advanced the hypothesis that, around the world, those populations with longer birth spacing would also be the areas with lower protein diets.[78] Though not much discussed today, perhaps Asante's food environment alleviated the dangers which could associate with such enthusiastic childbearing. In terms of the general structure of Akan diets, there has been little significant change since at least the early nineteenth century. In terms of staples, *fufu* is fairly ubiquitous in Asante, while *banku* or *kenkey* traditionally dominate amongst the Fante and Ga further south. *Fufu* is usually made from pounded plantain, yam, cocoyam or cassava. *Banku* and *kenkey* are generally made from fermented maize flour, although sometimes cassava flour is also used. All three are sticky, starchy balls of dough usually dipped into one of any number of soups. In the early nineteenth century, Bowdich described these soups in some detail;

> 'The food of the higher orders is principally soup of dried fish, fowls, beef or mutton (according to the fetish), and ground nuts stewed in blood. The poorer class make their soups of dried deer, monkey's flesh, and frequently of the pelts of skins.'[79]

Although the quality of individual diet was largely dictated by class, if this is an accurate representation of Asante diet, later accounts which emphasised the lack of animal protein seem unlikely to be representative of the nineteenth century.

---

[76] Russell, p. 110.
[77] Kaye, p. 67.
[78] J.W.M. Whiting, 'Effects of Climate on Certain Cultural Practices', in *Explorations in Cultural Anthropology*, by W. Goodenough (New York: McGraw-Hill, 1964), pp. 511–44 (p. 521).
[79] Bowdich, *Mission*, p. 319.

Bush meat apparently went some way to make up for the lack of livestock, unsuitable to life in the often tsetse-infested forest. 'The oxen, sheep and fowls' which were kept were described by Macdonald as 'all lean, dry and tough, requiring an amount of energy, appetite and determination to eat them that a sound man seldom possesses.'[80] Livestock were infrequently slaughtered in any case, most people preferring to keep their animals as a form of reproducing capital rather than food per se.[81] However, snails were collected in 'colossal' quantities, providing 'one of the most important articles of food amongst the forest people.' Following the rains, 'whole villages – men, women and children – migrate into the forest' for these ends.[82] In Akokoaso, in the 1930s, the seasonal supply of dried fish from the coast complemented the seasonal supply of snails, evening out animal produce across the year. Here dried fish, snails and bush meat were, in that order, the three most commonly consumed forms of animal produce, far outstripping livestock consumption.[83] However, these ratios may well have changed, even fairly recently. In the 1840s, elephants were still being successfully hunted for food along the Bosompra River and, as late as the 1920s, game hunting was an intensive and valuable economic activity in north and west Asante.[84] However, this intensity meant that, even prior to the nineteenth century, the amount of game available in the forest was in the midst of a long and steady decline. In the 1890s, Macdonald acknowledged that 'the animal life of the colony has much changed during the last two centuries, and at the present day you may travel through the length and breadth of the land without finding occasion to use your gun.' In 1894, 168,045 skins were exported, two years later the number had fallen to 67,660.[85] In contrast to Bowdich's earlier description, in the late nineteenth century 'the ordinary diet of the bulk of the population was … very simple in nature,' something which can, perhaps, be seen as a fairly recent change.[86]

An absence of hunger obviously does not mean that poverty was absent, but it does mean that our understanding of poverty, especially in relation to food, has to move past a conceptualisation based entirely around physical forms of want. To start, we could consider nutrition more generally since, although total-calorie deficiencies were largely absent, nutrition security was not necessarily so straightforward. On the 1817 mission to Kumasi, Bowdich described dietary patterns which were dependent on socioeconomic

[80] Macdonald, p. 69.
[81] Russell, p. 110.
[82] A.W. Cardinal, *In Ashanti and Beyond* (London: Seeley, Service & Co., 1927), pp. 78–80.
[83] W.H. Beckett, *Akokoaso: A Survey of a Gold Coast Village* (London: P. Lund, Humphries & Co., 1944), pp. 22–23.
[84] McCaskie, *State*, pp. 27–29.
[85] Macdonald, p. 72.
[86] Macdonald, p. 40.

status. His assistant-surgeon, H. Tedlie, also recorded that craw-craw, a painful itch symptomatic of onchocerciasis, or river blindness, 'is most commonly met with in children, few of the Dunko [*nnɔnkɔfɔ*] slaves are without it, from their poor diet and extreme dirtiness.' A number of other illnesses were also seen to primarily affect children, slaves and the poor. It can probably be assumed that these were conditions often exacerbated by malnutrition.[87]

As a failure of social reproduction, malnutrition is born from shortcomings in either the domestic economy or the food economy. These failures can be localised, sectoral, or both. Poverty, here, interacts with malnutrition when maternal time is too constrained to provide the requisite amount of protection to children, or when parental labour fails to provide enough nutritious foodstuffs. Given that coercion and inequality were an inherent part of precolonial Asante production, this was a problem primarily for the poor, free or unfree, Akan or *nnɔnkɔfɔ*. As Bowdich explained of slaves,

> 'Their labour was first to produce a proportionate supply to the household of their Chief, and afterwards an existence for themselves: of the greater part of the necessaries for the latter, they had been pilfered in common with the poorer class of Asantees (nominally but not virtually free), under various pretences, either in their distant plantation or on the arrival at the markets, by the public servants of the King and the Chiefs.'[88]

We can, then, assume that the social epidemiology of malnutrition in nineteenth-century Asante was largely dictated by wealth. The *ahiafo*, though fed and watered, found their economic agency drained by the demands of Asante's upper classes and their involvement in the expanding extra-subsistence economy. Although it is impossible to suggest the degree to which these demands affected nutritional status, it was the *ahiafo* that had the least opportunity to provide their children with sufficient food or necessary care. In this respect, malnutrition interacted with an absolutist form of structural poverty unrelated to food insecurity.

However, amongst free Asante, emergent forms of capitalist production tied poverty to a lack of capital distinct from basal subsistence. Debt flourished amongst Asante's proto-capitalists and, as part of their struggle up the social ladder, even free citizens could find themselves in debt-bondage, sold to a family creditor until the debt was repaid.[89] As

[87] H. Tedlie, 'Materia Medica and Diseases', in *Mission from Cape Coast Castle to Ashantee: With a Statistical Account of That Kingdom and Geographical Notices of Other Parts of the Interior of Africa*, by T.E. Bowdich (London: John Murray, 1819), pp. 370–80 (p. 375).
[88] Bowdich, *Teembo*, p. 18.
[89] Gareth Austin, *Labour*, pp. 140–50.

Austin has argued, simplistic land-rich/labour-scarce models of Asante economics are 'overly aggregative' for nineteenth-century Asante since, amongst other things, they ignore the supply of capital as an important short-term determinant of output.[90] The diversification of production and the intensivised pursuit of extra-subsistence production cultivated a more demanding, relativistic understanding of poverty. For both the free and unfree in Asante, malnutrition resulted from an absolute form of poverty. However, for free Asante, this could be sparked by conjunctural crisis, or a relative form of want disconnected from physical need.

c. *Savannah poverty, by comparison*

The area north of Asante was both less interesting and less visible to Europeans on the Gold Coast. Asante already controlled the trade in slaves, gold, kola, palm oil and skins, reducing the need for exploration further north. The political and military power of nineteenth-century Asante also proved a formidable bulwark against European trade with Asante vassals in the savannah. As a result, the precolonial history of the North is much less accessible than Asante's. Northern historiography instead looks to the Arabic world, the ancient Empires of Ghana, Mali and Songhai, as well as to the trans-Saharan trade route. The Arabic literature emanating from Northern Ghana or discussing the savannah states is generally concerned with the political and religious history of the various kingdoms, rather than the details of savannah life.[91] More socially oriented descriptions from missionaries and traders, principally from the flourishing Gonja slave market at Salaga, begin to appear after the decline of Asante power in the 1870s.[92] However, the first extensive accounts arrive in the early twentieth century, accompanying the expansion of colonial authority over the North.[93]

On account of the long and bloody history of savannah slaving, Europeans arrived to an area greatly affected by decades of intermittent raiding. Beginning in earnest in the mid-eighteenth century, the Gonja and Dagomba began raiding less well-armed ethnic groups in order to pay the Asante tribute, in the case of the Gonja, or to repay war-debts, in the case of the Dagomba. Gonja and Dagomba raiding declined following Asante's 1874 defeat at the hands of the British Empire, but the zenith of raiding in the north-east

[90] Gareth Austin, *Labour*, pp. 73–77.
[91] See, for instance, Wilks, Levtzion and Haight.
[92] *Salaga Papers*, ed. by Marion Johnson (Legon: University of Ghana, 1965).
[93] Louis Tauxier, *Le Noir Du Soudan: Pays Mossi et Gourounsi, Documents et Analyses* (Paris: Emile Larose, 1912); A.W. Cardinal, *The Natives of the Northern Territories of the Gold Coast: Their Customs, Religion and Folklore* (London: George Routledge & Sons, 1920).

came with the leadership of the notorious Zabarima leader, Babatu, and only ceased following the advance of a French column in 1896. The following year, the last of the Gold Coast's slave-raiders were brought to heel with the northward expansion of British force.[94]

The prevalence of slave-raiding meant that the first European forays into the Northern Territories coincided with a period of massive social instability. Any discussion of the nineteenth-century environment has to take into account that this was a time where even powerful Northern kingdoms were subject to the demands of Asante imperialism. In Gonja, for instance, it was said that 'no man could say he possessed anything of his own. His wives, his children, his property, were all at the mercy of passing Ashantis.'[95] On his 1876 visit to Salaga, one British agent wrote that 'I myself saw the ruins of several large villages in the county through which I passed, and on inquiring the cause of the desolation, the reply in every case was, "the Ashantees sold all the inhabitants."'[96] Given the breadth of the disruption caused by slavery, we have little real idea as to what the social and economic standard of the West African savannah was like before the social chaos which succeeded Asante expansionism and the growing demand for slaves in the Americas.

Keeping this in mind, and in spite of the relative dearth of written evidence, the later folk tradition allows us to make some assumptions about the nature of poverty, wealth and hunger in the precolonial North, aspects of which do diverge from that seen in the forest. Ghana's savannah society is formed from numerous ethnic groups, all of which have unique social structures, economies and histories often more distinct in the nineteenth century than they are today. Any assumptions that are drawn simply on geography cannot be considered particularly robust. However the Northern ecology and economy is fairly homogenous and, with broad strokes, we can at least try to describe how poverty, wealth and hunger interact with this particular environment.

Given the muddied history of savannah subsistence it is also difficult to speak to the historical depth of Northern hunger. Traditionally, the Northern diet was based upon grains and supported with legumes, nuts, roots and produce from an array of domestic as well as wild animals. As is the case today, harvests were in June and July for early millet and in November for guinea-corn and later millet. Supplementary crops are gathered in the interceding months but, at least at the start of the colonial period, by 'the end of the

[94] Benedict G. Der, *The Slave Trade in Northern Ghana* (Accra: Woeli, 1998), pp. 10–26.
[95] R. la T. Lonsdale, 'Kumasi and Salaga, 1881', SAL/41/3. In, Johnson.
[96] V.S. Goldsbury, 'Report of his journey into the interior of the Gold Coast, 1876', SAL/21/2. In, Johnson.

dry season there is usually great scarcity … which is tided over by storing the grain, but is most frequently a period of semi-starvation.'[97] Recurrent scarcity was exacerbated by vagaries in the rainfall pattern, or in the failure of one or both rains.

Famine was certainly no stranger. In the north-eastern corner of the protectorate, a 1910 report noted that 'there is said to have been a famine in Frafra fifteen or sixteen years ago [1890s], when children were sold for a calabash of corn, or a goat.'[98] Writing in the 1910s, Cardinal described the extensive religious relationship Northern peoples had with the rain. Fragile, rain-dependent food economies evolved a tradition in which 'rain is in possession of a man just as is the earth. He is *duatu*, *saa-dana*, *ngwaro nyona* in Kassena, Nankanni, and Builsa.'[99] Cardinal found that 'few things are inedible. Except for one's totem, all meat is devoured, fowl, flesh, and fish.' Hunger was held at bay with a flexible approach to diet but famine foods were also well known;

> 'Snakes and caterpillars … the shea-butter pest, frogs, and even lizards make their way to the local stomachs … One Nankanni brought me twenty-two edible weeds from a field in front of my house at Zuaragu. Once the first rains begin, the shea-butter, baobab, locust-beans and other fruits mature and help to carry on till the early crop of millet.'[100]

Insecurity, here, meant that restraint was generally wise:

> 'To taste regularly brings too much eating.'[101]

In this environment, there was a constant underlying threat of cyclically manifested poverty:

> 'If poverty nests on your head try to get rid of it for, should it penetrate your house, you will be unable to get rid of it.'[102]

In the Northern folk tradition, the avoidance of hunger is usually explained in terms of the relative strength of the relationship between food and family. For instance, hunger amongst the Dàgàrà was circumvented through the communalism afforded by extended ideas of family:

> 'If an orphan kid does not suck the breasts of several goats, it cannot survive.'[103]

---

[97] Cardinal, *Northern Territories*, pp. 83–85.
[98] PRAAD/A/ADM 56/1/128, Captain H. Wheeler, Acting Provincial Commissioner, North Eastern Province, Zuarungu, 'Food supply in Frafra,' 31/5/1911.
[99] Cardinal, *Northern Territories*, p. 264.
[100] Cardinal, *Northern Territories*, pp. 82–83.
[101] C.S. Kponkpogori, C.J. Natomah and O. Rytz, *Gonja Proverbs* (Legon: University of Ghana, 1966), p. 10.
[102] A.K. Awedoba, *An Introduction to Kasena Society and Culture through Their Proverbs* (Lanham, Maryland: University Press of America, 2000), p. 181.

Social isolation interacts with social and spiritual destitution. Individualism appears at a crossroads between hunger and mortality, if not specifically poverty:

> 'The tortoise says it has no relatives; for this reason it carries its own coffin along, so that when it dies it becomes its grave.'[104]
>
> 'The grave of an unattached person is very wretched.'[105]
>
> 'Lone eater, lone death.'[106]
>
> 'He that eats alone dies alone.'[107]

Food security was underwritten by communal ties but food insecurity remained endemic. Without the agroeconomic security and forest rents enjoyed further south, savannah subsistence precluded the class stratification which at least partially defined nutritional status in Asante. Amongst the Tallensi, for instance, Fortes found an 'absence of both material and institutional possibilities for capital accumulation or for technical advance.'[108] Apart from chiefs and the few other spiritual leaders entitled to communal labour, few in the nineteenth-century North could be considered wealthy.[109]

However, an absence of wealth does not necessarily indicate a preponderance of poverty. Indeed, the Gonja land which surrounded Salaga was capable of producing more than enough food for a city whose semi-urban population could swell into the tens of thousands given the season. One late nineteenth-century visitor explaining that;

> 'The high plateau is covered with low savannah grass (giving fine pasture) and two-foot-high shrubs, and is fruitful enough to bear cultivated maize, millet and yam fields, and to serve the needs of the town in provisions of all kinds.'[110]

Even with the city in rapid decline, late nineteenth-century Salaga remained a place where 'even the blind found a useful occupation in basket-making.'[111] The Gonja countryside was known to be 'well suited for growing yams, legumes and tropical

---

[103] Sebastian K. Bemille, *Dàgàrà Proverbs* (Berlin: Dietrich Reimer, 2010), p. 188.
[104] Kponkpogori, Natomah and Rytz, p. 40.
[105] Samuel Akon and others, *Kusaas Siilima: Kusaasi Proverbs* (Tamale: Ghana Institute of Linguistics, 1980), p. 12.
[106] Akon and others, p. 27.
[107] Bemille, p. 199.
[108] Meyer Fortes, *The Dynamics of Clanship among the Tallensi: Being the First Part of an Analysis of the Social Structure of a Trans-Volta Tribe* (Oxford: Oxford University Press, 1945), p. x.
[109] Meyer Fortes, 'The Political System of the Tallensi of the Northern Territories of the Gold Coast', in *African Political Systems*, ed. by Meyer Fortes and Edward Evans Evans-Pritchard (Oxford: Oxford University Press, 1940), pp. 239–71 (pp. 250–51).
[110] C. Von Francois, 'Salaga in 1888', acc. no. SAL/18/1. In, Johnson.
[111] J.G. Christaller, 'Recent Explorations in the Basin of the Volta (Gold Coast) by Missionaries of the Basel Missionary Society', *Proceedings of the Royal Geographical Society and Monthly Record of Geography*, New Monthly Series, 8.4 (1886), 246–56 (p. 254).

grains … sheep and goats are abundant in and around Salaga, and there are also large numbers of horses and donkeys.' Animals were commonly reared, sold and slaughtered in the city's sprawling market, where game and milk could be readily purchased too.[112] Although Salaga is a special case for many reasons, even into the 1960s Allen noted that the Dagomba system of agriculture, 'which has altered little', 'ensures not only an ample food supply for the cultivating family but also a surplus for sale' and was 'capable of supporting a considerable degree of urban development and of providing the cultivator with a satisfactory income.'[113] With few expensive inputs – aside from physical labour – even the poor, isolated farmer did not necessarily suffer chronic hunger:

> 'There is someone who eats and is satisfied but has no wife to grind [grain].'[114]

Neither did the greater degree of food insecurity or poverty, at least as relative to the South, equate with malnutrition. Anthropometric analyses of Northern Ghanaian and Burkinabe solider in the nineteenth-century Dutch military – most of whom were enslaved before their coerced recruitment on the coast – show that savannah recruits were of similar height to their Dutch counterparts. Although shorter than individuals from sparsely populated countries with good access to protein – the USA, Argentina and Australia for instance – even these savannah slaves do not appear to have grown up in a state of chronic undernutrition. Perhaps benefitting from agricultural innovation and the adoption of new world crops, such as maize, groundnuts and cassava, these individuals were, on average, about 1.6 centimetres taller than other freed West African slaves during the 1800s.[115]

d. Family, famine, poverty and wealth

Unlike in the food secure economies of the Southern forest, family in the North was the primary means to escape famine and the primary route to security, if not affluence. In the 1930s, Victor Aboya, a Nankanse man explained the relationship between wealth, famine and family;

> 'If you have not got a son, when you become old and are only able to drag your buttocks along the ground, and have still to work for yourself, what will you do? You will eat only pity; you will fall down [i.e. die] like

[112] V.S. Goldsbury, 'Report of his journey into the interior of the Gold Coast, 1876', acc. no. SAL/11/1. In, Johnson.
[113] Allan, p. 240.
[114] Akon and others, p. 12.
[115] Austin, Baten and Van Leeuwen, pp. 1298–99.

> some light thing and they will not even know that someone is dead …When a man has many sons, corn cannot fail in his house … when this farm fails, that one does not. On account of this, they do not ever fail to have corn. Such people are better off than their neighbours. Starving people's best goats, sheep, the biggest of the heifers, find their way to their place in exchange for corn.'[116]

Where food supply was defined by the family, nutrition was generally determined by the efficacy of family labour. Cattle were a wise investment but, when access to familial labour ensured the supply of staple grains and actively averted the threat of hunger, children were a better one.

The Northern family was a flexible, fluid construction which could be adapted according to the relative and shifting demands of individual societies. In the North, selling children was not unheard of in times of famine. Similarly, in Asante, family members were said to have been sold to assuage the burden of debt.[117] Where families in Asante were usually expanded with slaves and pawns, dependents in the North could be shorn if they could not be maintained. Writing in 1910, one administrator in the north-east found that, following a Nankani famine in the 1890s, 'disputes are still brought in for settlement, over the ownership of young women, owing to the sales of children which took place at that time.'[118] Less dramatically, Cardinal reports that 'adoption would be abhorrent, but [in times of particular hardship] a custom exists for a son to give his eldest male and female children to the grandfather on the father's side, and another custom of exchanging the ownership of the eldest children between two brothers.'[119] These practices supported the adoption of those older children whose labour is more valuable, rather than those more dependent younger children. As either a boon to household production or as a potential drain on limited resources, the adoption of children could be used to relieve the pressure placed on precarious household economies without depleting human capital from the wider kinship group.

In this environment, where the extension of the family was the best method to ensure food security, religious and cultural practices evolved to promote investments in only productive human capital. Infanticide, for instance, was apparently 'prevalent everywhere' and was both socially reinforced and practiced in collaboration with the community.[120] Cardinal, for instance, explained that;

---

[116] R.S. Rattray, *The Tribes of the Ashanti Hinterland* (Oxford: Clarendon Press, 1932), p. 138.
[117] Rattray, *Law*, p. 37.
[118] PRAAD/A/ADM/56/1/128, 'Food supply in Frafra'; Cardinal, *Northern Territories*, p. 74.
[119] Cardinal, *Northern Territories*, p. 74.
[120] Cardinal, *Northern Territories*, p. 29.

> 'Almost invariably a deformed child is a devil, twins sometimes are … once the father is certain that his wife has brought forth a devil, he proceeds to the devil-killer.'[121]

In an often precarious subsistence economy, the relative worth of human capital is more sharply realised than in areas which enjoy a greater level of food security. Raising disabled children who, when grown, were often less able to contribute to the domestic economy could be recognised as an improvident investment in the household. Twins, likewise, are a greater drain on maternal time and energy during nursing and on often scant household resources during infancy.[122] Both twins and disabled children are markedly more likely to die before adulthood and can be considered 'lowered-viability infants.'[123] Register data from eighteenth- and nineteenth-century rural Finland actually suggests that 'the survival of twins was so low that twin deliveries were no more productive than singleton deliveries.'[124] Traditions regarding sexual abstinence after birth or during breastfeeding may also limit a mother's ability to conceive again, perhaps for several years. In the Northern environment – where the physical extension of the family is central to the economic survival of the family – cultural processes evolved to socially and spiritually condone the safest investments in human capital. In the north-east Tauxier noted that, if 'the Kassouna-Boura women give birth to evil spirits', those children 'would later kill their father or mother.'[125] In the borderline economies of the North such an assumption was not exclusively superstition but a metaphor with some basis in the hard realities of savannah existence.

As part of this considered investment in children, communities in the savannah generally enforced lengthy post-partum taboos regarding sex or cohabitation. In order to ensure that breastfeeding could continue without interruption from another pregnancy, 'women generally have intercourse with a man only after two years, because they are convinced if they become pregnant again before the child can eat native food they will die.'[126] Polygyny was fairly common though, and seen as a response to this tradition. Yvonne Fox, the wife of a colonial administrator in the Northern Territories explained that 'men had to resort to many wives and at that time several chiefs boasted a "harem"

---

[121] Cardinal, *Northern Territories*, p. 28.
[122] Gary Granzberg, 'Twin Infanticide - A Cross-Cultural Test of a Materialistic Explanation', *Ethos*, 1.4 (1973), 405–12.
[123] Helen L. Ball and Catherine M. Hill, 'Reevaluating "Twin Infanticide"', *Current Anthropology*, 37.5 (1996), 856–63; Guang Guo and Laurence M. Grummer-Strawn, 'Child Mortality Among Twins in Less Developed Countries', *Population Studies*, 47.3 (1993), 495–510.
[124] Erkki Haukioja, Risto Lemmetyinen and Mirja Pikkola, 'Why Are Twins so Rare in Homo Sapiens?', *The American Naturalist*, 133.4 (1989), 572–77 (p. 576).
[125] Tauxier, p. 329.
[126] Cardinal, *Northern Territories*, p. 69.

of fifty women.' In contrast with the cult of fertility seen in Asante, high fertility was considered detrimental to the family. Fox recalls that when 'a White Father once mentioned to a chief that he was one of a family of nineteen children. The African's comment was to the effect that his mother must have been a goat.'[127]

In contrast with the North, the Southern economy had the flexibility to incorporate less productive dependents into the community. Amongst the Ga, for instance, the security of twins and the disabled was socially reinforced by their sacred position. In the 1930s, Field explained that their 'displeasure is greatly dreaded' through fear of otherworldly repercussions. The extent to which social ties could support particularly dependent children was such that 'idiots, *I am told*, are born only into chief's families.'[128] In Asante, Rattray found that infanticide did exist for some physical deformities.[129] However Fortes, writing later, explained that generally;

> 'Twins are welcomed and honoured. Special ritual observances distinguish them and their mother. Girl twins become the wives of the chief of their mother's chiefdom and boys become his personal attendants. Deformed and abnormal children, such as dwarfs, hunchbacks and albinos, are also taken into the chief's service.'[130]

Further south, chiefs, in their role as representatives of the community, had an established duty of care over their most vulnerable kin. While individual families may not have had the capacity to incorporate the survival of their most dependent children, the wider economy did. Again, amongst the Ga, community support secured the wellbeing of the disabled:

> 'Not only do his family care for him but all the neighbours help to keep an eye on hm. If he shambles into any compound he will probably be given food, and if he eats it messily his face will be cleaned for him before he is sent home.'[131]

Unlike in the South, the fragile food environment in the savannah precluded the inclusion of these less-productive dependents. Families were actively built in view of the community but with familial security very much in mind.

Although family labour was important to the Asante subsistence economy, childlessness was less associated with poverty as it was with social stigma. In Asante the childless or

[127] RH/MSS.Afr.S.2003, Yvonne P. Fox, 'Three chapters of memoirs on life in the Northern Territories of the Gold Coast', c. 1930s.
[128] Field, *Religion*, pp. 180–83.
[129] Rattray, *Religion*, pp. 56, 66.
[130] Fortes, 'Field Study', pp. 265–66.
[131] Field, *Religion*, p. 183.

infertile were viewed with a mixture of compassion, contempt and suspicion. Childless women were incomplete, childless men laughable.[132] In 1927 Rattray wrote that;

> 'Not so very many years ago the childless man or woman after death had great thorns … driven into the soles of the feet … At the same time the corpse was addressed with these words, *wonwo ba, mma sa bio* (you have not begotten-or borne-a child: do not return like that).'[133]

Although individuals were certainly concerned about the support children could offer their elderly parents, this worry was secondary in an environment free from any real want of food. In Asante, family usually preceded wealth but childlessness did not necessarily precede hunger. Procreation was more than an economic concern or a strategy to stem poverty. It transcended fears regarding individual or familial survival and was instead considered a social duty, a contribution to both the power of the kingdom and the power of the lineage. Where family averted poverty in the North, family created wealth in Asante. As Wilks has explained, 'the Asante view of the position of the individual within society, as trustee of the legacy of the ancestors on behalf of the generations yet born, carried the implication that the good citizen was the one who worked to bequeath more to his successors than he had acquired from his predecessors. *Sika sene, biribiaransen bio*, runs a familiar maxim: 'there is nothing as important as wealth.''[134]

It is impossible to give anything like an accurate epidemiology of nutritional illness in the nineteenth-century Gold Coast. Narrative accounts garner little useful information, while recent anthropometric analyses only grant a generalised view of nutritional status. Still, there are some speculations which we can forward. Kwashiorkor or symptomatic manifestations of PEM were probably recognised everywhere and pathologised socially and in relation to the family. Total-calories deficiencies were likely of greater concern in the North, where hunger could be epidemic and relief less forthcoming. Meat was more abundant than in the twentieth century and more regularly consumed everywhere, especially in the eighteenth century and before. Children were central to the survival and advancement of the family and domestic structures worked to safeguard the health and nutrition of infants. Diet and nutritional status, in a generalised sense, was likely determined by social standing. Universal and prolonged breastfeeding, however, mitigated the threat of an often insufficient adult diet for infants, regardless of wealth. These cautious conclusions neither support nor deny the view of 'Merrie Africa,' at least

[132] Bleek, p. 125.
[133] Rattray, *Religion*, p. 67.
[134] Wilks, p. 673.

in terms of health and wellbeing. What they do deny, however, is the static homogeneity implied in such a view.

Throughout the Gold Coast, various modes and units of production had developed over the long course of history in order to prevent hunger and promote family survival in relation to localised environments which were often subject to change. Amidst the bounty of the forest economy, personal and familial poverty was rarely what Iliffe defines as conjunctural – temporary poverty into which ordinarily self-sufficient people may be thrown by crisis – because of the ease with which most Asante could modify their food supply. Kinship ties mitigated the threat of conjunctural poverty at the personal or familial level. At the local level, conjunctural crisis could result from adverse political or climactic conditions, however there is no cause to believe that such crises were anything but extremely rare in the immediate precolonial period. What poverty did exist largely resulted from social exclusion or isolation, poverty which comes under the banner of structural poverty – long term poverty caused by an individual's personal or social circumstances. However, the centralised communalism of Asante society also assuaged the threat of consistent hunger, even for the lowest orders or the physically incapacitated. Iliffe suggests that continent-wide changes under colonial rule meant that patterns of 'epidemic starvation for all but the rich gave way to endemic undernutrition for the very poor.'[135] However this presupposition does not fit in Asante, where epidemic starvation was probably never a constant threat. Malnutrition may have related to social standing – in terms of the quality of food available – but any problem of quantity was likely the concern of only a very small group of individuals existing at the absolute edge of society.

Although it is misleading to suggest that famine and structural poverty were ubiquitous features of Northern life, the Gold Coast's savannah does fit an archetype of African poverty which the forest does not. Jack Goody's explanation of Africa as a place where relatively simple modes of production denied the development of an expanded class structure is much more relatable when considering a generalised North.[136] Iliffe's presuppositions stand on firmer ground too. Economic marginality and the endemic threat of conjunctural crisis levelled much individual advantage, making long-term parasitism untenable for both the comparatively rich and the comparatively poor. Epidemic starvation was an endemic concern and, over the long course of history, the threat of food insecurity modified savannah culture to adapt to this environment. Family was articulated into the primary form of wealth, the primary form of famine relief, and

[135] Iliffe, *African Poor*, pp. 4, 6.
[136] Jack Goody, *Cooking*.

the surest way to avoid conjunctural crises. Despite this, the extension of the Northern family was informed by a social acknowledgement of the precarious nature of child survival. The North's considered form of pronatalism, where families were regulated in view of the often delicate food environment, stands in contrast with the thirsty social expansionism that the food security of the forest granted Asante kin-groups.

The fact that poverty, hunger and malnutrition existed in very different forms in Asante and in the savannah is particularly important moving forwards, where forces of colonial and global economics acted on the colony as if it were one organic unit of production. Cash and export economics swelled production and promoted economic integration across previously distinct geographies. Family structures changed in response to the demands and responsibilities of the new economy, reflecting changing forms of poverty and food security, and influencing diet and nutrition in turn. As economic integration increased throughout the twentieth century, we should consider precisely how these spatially dependent forms of poverty and nutritional status changed, and ask what effect these changes had on the aetiology and epidemiology of malnutrition in the pan-African archetype of the Northern savannah, as well as in the uniquely secure Southern forest.

3. NUTRITION AND THE CASH ECONOMY: COCOA AND CHILDREARING IN THE SOUTHERN GOLD COAST

With the onset of colonial rule, Asante's economy changed from one oriented around subsistence agriculture to one increasingly reliant upon the commercial cultivation of cocoa. Unlike much of Africa, the Gold Coast's shift to cash-cropping was spearheaded by indigenous entrepreneurship, rather than the efforts of European settlers. By 1910, only twenty years after its introduction, these 'rural capitalists' had transformed the Gold Coast into the biggest exporter of cocoa in the world.[1] In 1893, cocoa exports measured 3,460 lbs, earning only £93 for the colony. However, by 1920, the 124,000 tons of cocoa shipped out was worth more than £10 million. The combined value of the next seven most important agricultural exports – seventeen million tons of kola nuts, Guinea grains, palm kernels, palm oil, rubber, cotton and copra – was only £830,000.[2] By the 1930s, cocoa exports averaged over two hundred thousand tons and could represent as much as three quarters of the colony's annual export earnings, propping up the transport and distributive sectors as well as an expanding, Atlantic-facing urban world which concentrated around and was dependent upon Southern production.[3]

Extra-subsistence production in pursuit of cash was common throughout the post-Atlantic slave-trade, pre-cocoa economy of the nineteenth century. During these years there was, according to Austin, 'a general readiness both to respond to the market opportunities and to use extra-economic means, from slavery and polygamy to market controls, to make those responses more effective.'[4] However, colonial encouragement and the growing supply of imports accelerated this transition, helping to drive the expansion of cocoa and sowing the influence of the cocoa trade throughout the fabric of Asante life. During the first half of the twentieth century, both the state and the individual cultivators became increasingly dependent on the production of cocoa. As one popular high-life song from the 1950s explained;

---

[1] Polly Hill, *The Gold Coast Cocoa Farmer: A Preliminary Survey* (Oxford: Oxford University Press, 1956); Polly Hill, *The Migrant Cocoa-Farmers of Southern Ghana: A Study in Rural Capitalism* (Cambridge: Cambridge University Press, 1963).
[2] Gold Coast Government, *Agricultural Department Annual Report [ADAR]*, 1900; 1920, p. 62.
[3] *ADAR*, 1955/6, p. 30.
[4] Gareth Austin, '"No Elders Were Present": Commoners and Private Ownership in Asante, 1807-96', *The Journal of African History*, 37.1 (1996), 1–30 (p. 29).

> 'If you want to send your children to school, it is cocoa,
> If you want to build your house, it is cocoa,
> If you want to marry, it is cocoa,
> If you want to buy cloth, it is cocoa,
> Whatever you want to do in this world,
> It is with cocoa money that you do it.'[5]

Unsurprisingly, the shift into cocoa cultivation was not entirely smooth. The draw of the cocoa economy was such that, as one observer recalled, 'everyone went 'cocoa mad', lawyers threw down their briefs, clerks gave up their berths and all devoted their time to buying and shipping cocoa.'[6] 'Chaos' was the word Gwendolyn Mikell chose to describe the social and economic turmoil of the Gold Coast's cocoa revolution, as cocoa altered traditions of kinship and dominated emancipatory politics throughout the colony.[7] Jean Allman also chose to describe the 'chaos' of Asante gender relations during this period, when the pursuit of cash and cocoa refigured the roles of wives and mothers across the kingdom. In particular, Allman cites a time between 1929 and 1932 when unmarried women over the age of fifteen were detained until they spoke the name of a man whom they would agree to marry. This individual would then be summoned to court and obliged to pay a 'release fee' of five shillings.[8]

At the intersection of these chaotic worlds – the commercial and domestic, or the public and the private – is where the social epidemiology of malnutrition often lies. In Asante, these are two worlds which are largely indivisible. As the Gold Coast's Director of Agriculture explained in 1918, unpaid 'family labour' and free access to 'tribal' land meant that that 'cocoa can be more cheaply produced in this country than in any other country with which I am acquainted.'[9] The boom in commercial production was, therefore, facilitated by refiguring those domestic modes of production whose primary concern had previously been the health, happiness and hunger of the household. These changes were only complicated by the nature of Asante domestic structure, or what Ahrin has explained as the 'remarkable' paradox that 'in spite of their matrilineal inheritance system, the Ashanti basic unit of labour in mining, trading and farming has always been

[5] Quoted in Jean Allman and Victoria Tashjian, *'I Will Not Eat Stone': A Women's History of Colonial Asante*, Social History of Africa (Oxford: James Currey, 2000), p. 3.
[6] Quoted in Roger J. Southall, 'Farmers, Traders and Brokers in the Gold Coast Cocoa Economy', *Canadian Journal of African Studies*, 12.2 (1978), 185–211 (p. 196).
[7] Gwendolyn Mikell, *Cocoa and Chaos in Ghana* (New York: Paragon House, 1989).
[8] Jean Allman, 'Rounding up Spinsters: Gender Chaos and Unmarried Women in Colonial Asante', *Journal of African History*, 37.02 (1996), 195–214.
[9] W.S. Tudhope, *Enquiry into the Gold Coast Cocoa Industry: Final Report, 1918-1919* (Accra: Government Printer, 1919), p. 12.

the conjugal family.'[10] Cash and then cocoa tested this paradox by questioning the relative importance of production and reproduction in Asante conceptualisations of wealth.

As the main tenets of Asante production shifted further in response to the cocoa boom, local food cultures and patterns of childrearing changed as well. Forest agriculture moved to accommodate cash-crops and the production and relative worth of food crops changed in response. Expanded agricultural production drove an increased demand for familial labour, which impinged on the time available for childrearing, as well as for extra-familial labour, which fostered the growth of an immigrant labouring class. Huge increases in the value of extra-subsistence production promoted internal migration and propped up the expanding urban areas which were concentrated almost exclusively in the South – the Northern Territories' administrative centre in Tamale being the primary exception. In these growing cities, social reproduction and the domestic economy was largely removed from the nineteenth-century model and casts the nutrition environment of the rural forest into sharp relief. For some in rural Asante, these changes meant opportunities for employment within an expanded food market. For others, it meant dislocation from the subsistence economy and reliance on purchased food. Cocoa influenced nutrition and food security throughout the kingdom, however these were not necessarily malign influences. Cash had the potential to fill any gaps in subsidence and the diversification of employment facilitated new routes into wealth. Sadly, the converse was now also true, and deficits in cash or employment could tie food insecurity and malnutrition to emergent forms of poverty. Massive shifts in the Gold Coast economy meant that the demography of malnutrition changed. The economy, and individual position within it, suddenly became relevant to the social aetiology of malnutrition.

a. Social reproduction in the colonial economy

Although the expansion of cocoa production in Asante should be considered the result of indigenous industry it is important to remember that colonialism provided the backdrop against which these developments took place. Through a combination of free trade and indirect rule, Whitehall guided the development of British colonies, dependencies and protectorates around the world. An important aspect of this, and one especially relevant

[10] Kwame Arhin, 'Succession and Gold Mining at Mansu Nkwanta', *Research Review, University of Ghana*, 6.3 (1970), 101–9 (p. 107).

for a study of malnutrition, is the way in which the colonial establishment attempted to refigure the African domestic environment, as well as the degree to which it succeeded.

Writing in the late 1960s, Ester Boserup noted that 'colonial administrators and technical advisers are largely responsible for the deterioration in the status of women in the agricultural sectors.'[11] In subsequent years, feminist economists have explained the degree to which female labour is ignored in the neo-classical tradition of economic thought fundamental to Western governments and colonial administrations alike.[12] One illustrative aspect of this is the common misrepresentation of the nature of family. In his 1820 *Essay on Government*, James Mill, one of the founders of classical economics, explained that;

> 'All those individuals whose interests are indisputably included in those of other individuals may be struck off without inconvenience. In this light … women may be regarded, the interest of almost all of whom is involved in that of their fathers or in that of their husbands.'[13]

Well into the twentieth century, the view still propagated by influential textbooks was that 'family affections generally are so pure a form of altruism, that their action might have shown little semblance of regularity, had it not been for the uniformity of the family relations themselves.'[14] This rationale assumes that the family operates as a single unit and, in doing so, denies the possibility of intra-family conflict and the inequitable allocation of resources. However in Asante, as was often the case elsewhere in Africa, 'the property of a wife was quite distinct from that of the husband.'[15] Such distinctions can cause significant divergences in health and wellbeing within a family unit. Regarding colonial Nyasaland, Megan Vaughan explained that 'the rights and duties of husbands and brothers were the subject of constant negotiation.' This was a particular problem in times of economic stress, such as the 1949 famine where 'the suffering of women … was

[11] Ester Boserup, *Women's Role in Economic Development* (London: George Allen & Unwin, 1971).
[12] For feminist critiques of neoclassical economics, see, amongst many others, Paula England, 'The Separative Self: Androcentric Bias in Neoclassical Assumptions', in *Beyond Economic Man: Feminist Theory and Economics*, ed. by Marianne A. Ferber and Julie A. Nelson (Chicago: University of Chicago Press, 1993), pp. 37–53; Lourdes Benería, 'Toward a Greater Integration of Gender in Economics', *World Development*, 23.11 (1995), 1839–1850.
[13] James Mill, *An Essay on Government*, ed. by Currin V. Shields (Indianapolis: Bobbs-Merrill, 1955), pp. 73–74.
[14] Alfred Marshall, *Principles of Economics*, 8th edn (London: Macmillan & Co., 1920), p. 20.
[15] George Macdonald, *The Gold Coast, Past and Present: A Short Description of the Country and Its People* (London: Longmans, Green & Co., 1898), p. 290.

constructed as much around government famine relief policy as it was around marriage and kinship structure.'[16]

The suffering of women often also reflects in the suffering of their children. Conceptualising the family as a single economic unit obscures and undervalues those labours associated with the basic survival and expansion of the family, part of which includes the work necessary to secure the health and nutritional status of every dependent member. Ultimately the neo-classical approach to economics focuses on the 'productive economy' – making money – and takes for granted the 'reproductive economy,' which sustains human needs. The contribution provided by the reproduction and maintenance of the labour force through childbirth, childcare and myriad domestic responsibilities is devalued as the accumulation of capital acquires a significantly greater value. As the family unit is appraised simply on its productive ability, reproductive labour is rendered invisible in any calculation of its worth. This is usually tied to gender since the subsistence activities omitted in production statistics are often ascribed to women. The status, freedoms and agency of women in any given society are, therefore, particularly relevant to the health and wellbeing of the children born into that society.

Built broadly upon the back of these Euro- and andro-centric economic theories, the insidious influence of colonial capitalism was only amplified by the more active colonisation of the domestic, which sought to reformulate African production and the African family along European lines.[17] By the late 1920s, colonised maternity came in the form of the baby shows, which had become a mechanism of 'social regulation, if not social control.' Here mothers were encouraged to bring their children up according to Western conditions of good childrearing and were rewarded when these conditions were met. Mothers received sugar, soap and children's clothes to encourage their continued attendance at clinics and their continued use of Western parenting.[18] Allman suggests that Asante mothers were largely ambivalent to the mothercraft agenda and, through sheer demand, had converted the child welfare centre in Kumasi into the curative centre they wanted, rather than the education centre which the administration had envisaged.

---

[16] Megan Vaughan, *The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi* (Cambridge: Cambridge University Press, 1987), p. 147.

[17] See, Claude Meillassoux, *Maidens, Meal and Money: Capitalism and the Domestic Community* (Cambridge: Cambridge University Press, 1981); Jean Comaroff and John L. Comaroff, 'Home-Made Hegemony: Modernity, Domesticity, and Colonialism in South Africa', in *African Encounters with Domesticity*, ed. by Karen Hansen (New Brunswick, N.J.: Rutgers University Press, 1992), pp. 37–74.

[18] Jean Allman, 'Making Mothers: Missionaries, Medical Officers and Women's Work in Colonial Asante, 1924-1945', *History Workshop*, 38 (1994), 23–47 (p. 29); see also, Nancy Rose Hunt, '"Le Bebe En Brousse": European Women, African Birth Spacing and Colonial Intervention in Breast Feeding in the Belgian Congo', *The International Journal of African Historical Studies*, 21.3 (1988), 401–32 (p. 418).

Indeed, by 1932, the Health Service attempted to offload responsibility for child welfare to Medical and Sanitary Services 'in view of the fact that the various Infant Welfare Clinics in the Gold Coast are now about 99% curative and only about 1% preventive in scope.' [19] Where Asante mothers attended more transparent forms of domestic engineering, such as child bathing sessions and missionary lectures, it was often for specific, mundane reasons, such as for recipes or medicine and baby powder.[20] Even so, the reconstruction of the mundane pioneered the colonisation of the home, furthering social and cultural ties to a metropolitan model of social reproduction.

b. Domestic change in colonial Asante

The expansion of capitalist production in pre- and early-colonial Asante radically altered the domestic economy of the average Asante household. Indirect rule provided the backdrop for the tense domestic environment of the early twentieth century. Rattray's elderly informants readily recognised this, noting that '"you have dealings with and recognise only the men; we supposed the European considered women of no account, and we know you do not recognise them as we have always done."'[21] Important tenets of colonialism such as welfare, education, taxation and the marketing of Western goods combined in order to abet the economic reformulation of gender roles which, rooted in the conflicting traditions of matrilineality and capitalistic accumulation, was already underway across the kingdom. What emerged was, in many respects, at odds with the situation in the nineteenth-century kingdom. As recorded in 1957 by the sociologist and later Prime Minister, Kofi Busia, it was common understanding that 'cocoa ruins the family, divides blood relations.'[22]

This does not mean to say that women in nineteenth-century Asante enjoyed anything like gender parity. Women were the property of men and the sexual freedom and social mobility of young women was circumscribed by law, tradition and taboo.[23] However women, and particularly post-menopausal women who had returned to their matrikin, did find some power in a matrilineal gerontocracy which recognised age and lineage

[19] PRAAD/A/CSO/11/6/4, Infant welfare centres – Principles, 1931-32, H. O'Hara May, Deputy Director of the Health Service to Director of Medical and Sanitary Services, 1932.
[20] Allman, 'Making Mothers', pp. 41–42.
[21] R.S. Rattray, *Ashanti* (Oxford: Clarendon Press, 1923), p. 84.
[22] K.A. Busia, *The Position of the Chief in the Modern Political System of Ashanti: A Study of the Influence of Contemporary Social Changes on Ashanti Political Institutions.* (London: Published for the International African Institute by Oxford University Press, 1951), p. 127.
[23] See, for instance, T.C. McCaskie, 'State and Society, Marriage and Adultery: Some Considerations Towards a Social History of Pre-Colonial Asante', *Journal of African History*, 22.04 (1981), 477–494.

before gender. Here the male elder (*abusuapanin*) and the female elder (*obaapanin*) sat together in authority over the matrilineage (*abusua*). At the centre too, the queen mother (*Asantehemaa*) was considered the co-ruler of the kingdom and the primary counsel to the *Asantehene*. Although political centralisation and military expansion in the eighteenth century allowed for the development of chieftaincy, kingship and a greater formal degree of patriarchy, the enduring presence of the matrikin granted women a considerable degree of influence into the twentieth century.[24] As Rattray explained, if women had been more involved in warfare and not been bound by taboos concerning menstruation, 'the Ashanti woman, under a matrilineal system, would, I believe, eclipse any male in importance.'[25]

In the nineteenth-century household duties were also defined with a greater degree of fairness than in later years. Women cultivated food crops and performed the great bulk of the domestic responsibilities – cleaning, cooking and childcare, the drawing of water and the collection of firewood. Men were expected to clear land for cultivation, help during the harvest and build and maintain the houses. Still, in terms of general subsistence, women provided more than two-thirds of the labour required to farm. Men, however, also concerned themselves with extra-subsistence activities – panning for or mining gold, collecting kola and rubber, long-distance trade, weaving, metalworking, tapping palm wine, hunting and trapping.[26] Although a husband did have the legal right to 'profit by the fruits of … [her] labour and later that of her children,' this did not 'entitle the husband to order about either wife or children like slaves.' Instead, the standard relationship was such that it 'amounts only to the mutual assistance that persons living together and sharing a common ménage would naturally accord to each other.'[27]

However as cocoa, which initially belonged wholesale to men, was granted a higher station in the increasingly monetised economy than food crops, the continued rights of men to the labour of their wives allowed for gross inequalities within the traditional household. In previous years, female cultivation of food had allowed women a valuable return on their labour, that of the house's food. Cocoa farms, however, required much more labour yet were considerably more valuable than food farms and, unlike food farms

[24] Emmanuel Akyeampong and Pashington Obeng, 'Spirituality, Gender, and Power in Asante History', *The International Journal of African Historical Studies*, 28.3 (1995), 481–508.
[25] Rattray, *Ashanti*, pp. 81–82.
[26] Gareth Austin, *Labour, Land, and Capital in Ghana: From Slavery to Free Labour in Asante, 1807-1956* (Rochester, NY: University of Rochester Press, 2005), pp. 107–10.
[27] R.S. Rattray, *Ashanti Law and Constitution* (Oxford: Oxford University Press, 1929), p. 25.

which were left to fallow every few years, cocoa farms held their value for decades.[28] Women's work on their husband's cocoa farms massively increased their conjugal contribution to household wealth. Despite this, the labour of Asante women was, as Roberts has explained, only compensated by the 'continued obligation of her husband to provide part of her subsistence from his own earnings.'[29] As Allman and Tashjian explain, 'conjugal labour in the production of cocoa severely undermined the reciprocity that had previously been a defining element of Asante marriage.'[30]

As Asante commercialism grew through the nineteenth century, the abolition of slavery led to a greater demand for 'legitimate' labour, something which only increased with the emergence of the cocoa industry at the beginning of the twentieth century.[31] Familial labour attained a greater value and women, as the potential producers of both children and cocoa were particularly valuable. In Brong, a little north of Asante proper, Mikel found an increase in polygyny and recorded 'older Brong males … [who] could remember the search for wives which occurred at the turn of the century when cocoa sank roots.'[32] As male elders cashed in on their female dependents brideprice became artificially inflated and now often included payments not refundable on divorce. Meanwhile, and despite the British banning pawnship, female pawns and pawn-wives also found a ready market.[33] Even in 1938, the Nowell Commission, the then most comprehensive study of the cocoa industry, explained that an individual 'could always hand over four or five of his nieces when he needed capital.'[34] Given the increasingly repressive domestic landscape, women began to utilise the space created by the British administration, increasingly contesting divorces or inheritances in colonial courts. Meanwhile, many others sought to escape the bounds of marriage altogether. As the costs of marriage grew

[28] Allman and Tashjian, p. 62.
[29] Penelope Roberts, 'The State and the Regulation of Marriage: Sefwi Wiawso (Ghana), 1900-40', in *Women, State, and Ideology: Studies from Africa and Asia*, ed. by Haleh Afshar (Albany, NY: SUNY Press, 1987), pp. 48–69 (p. 54).
[30] Allman and Tashjian, p. 65.
[31] Gareth Austin, 'Between Abolition and Jihad: The Asante Response to the Ending of the Atlantic Slave Trade, 1807-1896', in *From Slave Trade to 'Legitimate' Commerce: The Commercial Transition in Nineteenth-Century West Africa*, ed. by R. Law (Cambridge: Cambridge University Press, 1995), pp. 93–118.
[32] Mikell, p. 201.
[33] Beverly Grier, 'Pawns, Porters, and Petty Traders: Women in the Transition to Cash Crop Agriculture in Colonial Ghana', *Signs*, 17.2 (1992), 304–28; Roberts; Gareth Austin, 'Human Pawning in Asante 1800-1950: Markets and Coercion, Gender and Cocoa', in *Pawnship, Slavery and Colonialism in Africa*, ed. by Paul E. Lovejoy and Toyin Falola (Trenton, NJ: Africa World Press, 2003), pp. 187–224; Kwame Arhin, 'Monetisation and the Asante State', in *Money Matters: Instability, Values and Social Payments in the Modern History of West Africa Communities*, ed. by Jane I. Guyer (Portsmouth, NH: Heinemann, 1995), pp. 188–201.
[34] Quoted in Grier, p. 319.

both for men searching for a wife and for men whose wives were searching for divorce, Native Authorities and the colonial government attempted to restrict what was considered unbridled female emancipation and the emergence of a female petite bourgeoisie. Brideprices were forced down by Native State Councils which also passed laws to regulate adultery and divorce.[35] In some cases, as we have already seen, unmarried women were even prone to arrest.[36] As was the case elsewhere on the continent, constraints on female autonomy in Asante were codified as a crisis of morality and legitimised as part of a dialogue which concerned 'epidemics' of prostitution, adultery and venereal disease.[37]

Abetted by indirect rule, the arbitration of marriage, divorce, adultery and death became concentrated in the hands of Asante chiefs and allowed for the colonisation and commercialisation of the domestic under the apparently legitimate veneer of tradition. As with elsewhere on the continent, this spread to the realm of childrearing. Chiefs, for instance, served to propagate the use of western education. In exchange for his cooperation, Tafohene Yaw Dabanka, was allowed to educate six of his children for free at the Wesleyan Missionary School for girls.[38] As education became an increasingly important route into wealth and influence, its provision became a growing concern for Asante households. Since fathers were traditionally responsible for training their children in a profession – hunting, mining, fishing or farming – the payment of school fees was understood as the responsibility of the father.[39]

Increasing the cost of childrearing and placing the responsibility for the payment of childrearing in the hands of Asante fathers also further undermined the economic authority of Asante mothers. As the *Asantehemaa* was given to praying for during the *adae* ceremony, the gendered objectives of the nineteenth-century economy was that 'the women bear children and the men gain riches.'[40] As we have already seen [Chapter 2], children were absolutely central to Asante perceptions of affluence and, in many respects, acted as the female counterpart to male material wealth. However, under

[35] Roberts, pp. 61–67; Arhin, 'Monetisation'.
[36] Allman, 'Rounding up Spinsters'.
[37] Jean Allman, 'Of "Spinsters", "Concubines" and "Wicked Women": Reflections on Gender and Social Change in Colonial Asante', *Gender & History*, 3.2 (1991), 176–89; this 'gender chaos' is part of a continent-wide pattern, see, for instance, Margrethe Silberschmidt, *'Women Forget That Men Are the Masters': Gender Antagonism and Socio-Economic Change in Kisii District, Kenya* (Uppsala: Nordiska Afrikainstitutet, 1999); Ifi Amadiume, *Male Daughters, Female Husbands: Gender and Sex in African Society* (London: Zed, 1987).
[38] Allman, 'Making Mothers', p. 29.
[39] Jean Allman, 'Fathering, Mothering and Making Sense of Ntamoba: Reflections on the Economy of Child-Rearing in Colonial Asante', *Africa*, 67.02 (1997), 296–321 (p. 308).
[40] Rattray, *Ashanti*, p. 105.

colonial capitalism, women found their position as the arbiters of biological wealth at least partially usurped by their husbands' cash earning.

In the 1950s, and at the sharp-end of a demographic transition particularly painful for Asante mothers stripped of some of their social value and economic potential, Meyer Fortes described the divergence between male and female perceptions of value. Fortes noted that, although they recognise that 'contraception is contrary to Ashanti ideals and sentiments,' 'some educated men talk of the need for family limitation so as to enable better provision to be made for the education and standard of living of children.' He goes on to cite the story of 'an educated Ashanti friend' who 'decided to limit his family to three children' by sending 'his wife to stay with her parents after the birth of their third child':

> 'At the end of a year, he was obliged to yield to her protests and to allow her to come back to him. He then proposed that they should try to limit their family by practising continence. Outraged and in distress, his wife accused him of making this suggestion as a pretext for seeking to divorce her. She ran to her mother's brother, who called a meeting of the elders of his own and the husband's families. The husband was reprimanded at this meeting and was obliged to promise never to repeat his offence.'[41]

As subsistence agriculture waned in importance, and as cocoa replaced childbearing as the primary route to wealth, the economic position of wife and mother within the family was devalued to what was clearly a distressing extent. The scale of Asante's domestic transformation has received much fuller and more nuanced discussion elsewhere, Allman and Tashjian's wonderful *"I Will Not Eat Stone"* providing something of a definitive account, but it is important to recognise the breadth of these changes since it is in the household that malnutrition is produced. It is, in fact, precisely these changes which dictated child welfare, nutrition security and the production of food across the Gold Coast's cocoa belt.

c. *Nutrition and capitalist domesticity in rural Asante*

The second, smaller section of F.M. Purcell's lengthy investigation into nutrition on the Gold Coast concerned a number of Akan 'forest villages' in Akim and Asante. Finding the average Akan shorter and weaker than their neighbours in the savannah or on the coast,

[41] Meyer Fortes, 'A Demographic Field Study in Ashanti', in *Culture and Human Fertility: A Study of the Relation of Cultural Conditions to Fertility in Non-Industrial and Transitional Societies*, ed. by Lorimer Frank (Paris: UNESCO, 1954), pp. 253–340 (p. 265).

Purcell explained that they had 'adapted themselves to an inferior diet by economy in physique and in output of energy' and, although 'the standard of physique among Akans is low … clinical signs of dietic deficiency are uncommon among adults, and gross deficiency diseases are rarely seen.'[42] Generally, 'the diet of adults in the forest villages is ample and well balanced', although deficiencies in animal produce meant that 'the diet lacks good quality protein.'[43]

This absence of protein was taken by Purcell to be the primary nutritional problem in the forest. Although thrifty physiologies were assumed to alleviate much of the ill-effects amongst the adult population, children were found to be particularly vulnerable in the Akan food environment where a 'general oedema … is common and believed to be caused by a chronic lack of good quality protein food during the years of greatest need.' Purcell tied this oedema – apparently 'known everywhere as '*ahonhon*,'' deriving from *hõṅ*, meaning 'to swell'[44] – to the external debate between Stannus, Trowell, Williams and others, explaining that it 'may be severe in the fatal infantile pellagroid syndrome, which prevails throughout the forest country.'[45] Later investigations supported these conclusions. Sybil Russell, working in Asante since 1924, first as part of the Scottish Mission and later as a government consultant, also found oedematous malnutrition widespread across Asante, where 'protein is in short supply, especially for the children, who are served after their elders; and carbohydrate, of poor quality … forms the bulk of each meal.'[46]

In the 1930s, kwashiorkor played an important role in Akan infant mortality. In Akim, Purcell recorded that as many as ten percent of infant deaths were caused by *ahonhon*.[47] In the 1940s, 'cases of undernutrition and malnutrition were frequently seen' in Kumasi's hospitals.[48] Russell, however, was keen to clarify what Purcell had overlooked, explaining that, exacerbated by endemic malaria, ascaris and enteritis, the 'marked lack of protein' in the local diet meant that, for the typical baby, 'only continued breast-feeding tides

[42] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 109.
[43] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 4.
[44] Johann Gottlieb Christaller, *A Dictionary of the Asante and Fante Language Called Tshi (Chwee, Twi)* (Basel: Evangelical Missionary Society, 1881), pp. 188–89.
[45] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', pp. 109-10.
[46] E.H. Jellinek, 'The Russells of Edinburgh: A Medical Dynasty', *Proceedings of the Royal College of Physicians of Edinburgh*, 31.4 (2001), 342–51; Beatrice A. S. Russell, 'Malnutrition in Children under Three Years of Age in Ashanti, West Africa', *Archives of Disease in Childhood*, 21.106 (1946), 110–12 (p. 110).
[47] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 113.
[48] Russell, p. 110.

him over a critical period.'[49] As elsewhere in the Gold Coast, and elsewhere around the world, kwashiorkor in Asante related first to the domestic environment and was only afterwards influenced by the state of the local food economy. Even by the 1930s, however, cash, cocoa and colonialism had enacted significant changes to both Asante childrearing and Asante food production. Although the few investigations specifically regarding malnutrition in the Gold Coast grant useful glances into the nature of malnutrition in the forest, the insight they garner is fleeting, apolitical and disinterested in giving nutrition any form of historical narrative. Instead, the changing state of nutrition in the colonial forest has to be constructed with reference to the changes seen across the Southern Gold Coast throughout this period.

At a macroeconomic level, even the League of Nations recognised that changing demands for labour across the continent were a drain on nutritional efficiency, with Burnet and Aykroyd noting that 'while intertribal strife has disappeared, porterage work, work on roads and railways, etc., have disturbed the easy traditional routines of the native and have often subjected him to unaccustomed physical strain.'[50] This increased burden, however, did not fall evenly over colonies, or even over households. The remodelling of Asante domestic responsibilities meant that mothers across the forest had to bear much of the burden, adapting traditional methods of social reproduction to the conjugal responsibilities demanded by an invigorated capitalist economy. The nutritional effects were, for Purcell at least, plain to see;

> 'Unless the general standard of living of the African housewife and her family improves, the diet can hardly improve either. It is an unbalanced social organisation which ordains that the woman shall draw water and prepare the food; shall work in the house and in the field.'[51]

Despite this, Purcell still emphasised 'parental neglect and ignorance of child welfare.'[52] Even in the 1950s, Grant noted that 'where care is inadequate in terms of western standards, it appears to be related to ignorance rather than to indifference.'[53]

These conclusions complemented the broader colonial approach to nutrition [see Chapter 1]. In Uganda too, the state mantra read that malnutrition is 'not due so much to

[49] Russell, p. 110.
[50] E. Burnet and W.R. Aykroyd, 'Nutrition and Public Health', *League of Nations: Quarterly Bulletin of the Health Organisation*, 4 (1935), 323–474 (pp. 448–49).
[51] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 117.
[52] F.M. Purcell, *Diet and Ill-Health in the Forest Country of the Gold Coast* (London: Lewis, 1939), p. 66.
[53] Faye Woodard Grant, *The Nutrition and Health of Children in the Gold Coast* (Chicago: University of Chicago, 1955), p. 7.

absolute poverty as to ignorance, conservatism and superstition.'[54] It would only later fall to African doctors to discuss the interaction between malnutrition and poverty.[55] In view of the tendency to bring children to hospital too late, Mulago Hospital's Latimer Musoke did not blame maternal ignorance but explained that;

> 'The life of the mothers of most of our patients is very arduous. She had the responsibility of growing food for the family, assisting the husband in cultivating fields of cash-crops, providing water and firewood for the family and looking after her own four to eight children ... It is with these problems that the mother had to forsake her home and other children to bring her sick infant to hospital.' [56]

Similarly, Kenyan medical pioneer Bernard Omondi concluded that 'the far too common picture of kwashiorkor ... was rare in the old days.' However, 'the desire to get employment and earn money, to build good houses and to educate ones children is detrimental to child life in the present stage of economic struggle particularly in the low-income class of people who value money more than food.'[57] While Omondi may be guilty of inventive nostalgia, both Omondi's Kenya and Musoke's Uganda can probably be compared with the situation seen across the Southern Gold Coast.

Throughout the early twentieth century, money gained a greater importance in the daily lives and social standing of the average Asante family. Over the course of the colonial period, access to money determined access to land, to labour, to Western commodities, to education and even to salvation, as memberships to Christian churches could only be met with cash.[58] The vast majority of Asante cultivators were caught in a divergent economy. To stay in the self- or semi-self-sufficient economy of the recent past would cut them off from the cash economy, the draws of the expanding commodities and education markets and, by way of the relative nature of poverty, make them poor in comparison to their neighbours. Cash-cropping, by comparison, impinged upon individual economic agency, undermining self-sufficiency in favour of the market or the diminishing capacity of their neighbours to produce food.[59] However, the culturally prevalent desire for wealth – something which had ensured the chaos of the cocoa

[54] Uganda Government, *Review of Nutrition in Uganda: A Summary of Previous Work and An Appreciation of the Present Position* (Entebbe: Government Printer, 1945), p. 1.
[55] John Iliffe, *East African Doctors: A History of the Modern Profession* (Cambridge: Cambridge University Press, 2002), p. 141.
[56] Latimer K. Musoke, 'An Analysis of Admissions to the Paediatric Division, Mulago Hospital in 1959', *Archives of Disease in Childhood*, 36.187 (1961), 305–15 (p. 305).
[57] Quoted in, Iliffe, p. 108.
[58] Arhin, 'Monetisation'.
[59] This is very similar to the pattern seen in southern Uganda. See, John Nott, 'Malnutrition in a Modernising Economy: The Changing Aetiology and Epidemiology of Malnutrition in an African Kingdom, Buganda c.1940–73', *Medical History*, 60.02 (2016), 229–249 (p. 244).

revolution and the kingdom's epidemic of indebtedness – was reflected in what McCaskie calls a 'powerful drive to demonstrate status as a consumer.'[60] Of course, the switch to cash-cropping was rarely wholesale and the wealth of the forest ecology generally prevented food insecurity, at least for those with ready access to land. Despite this, reduced direct investments in social reproduction – for instance, food production, hunting, trapping, or even breastfeeding – had the potential to upset individual and household nutrition security, if not nutritional status.

This switch, as with much in Asante's colonial history, is muddled by matriliny. According to the historian and prominent pan-Africanist politician J.B. Danquah, in nineteenth-century Asante the burden of childrearing was such that;

> 'A father has right of use over his children, but the true ownership is vested in their maternal family. The tie between mother and child can scarcely be broken; but the relationship between father and child can be destroyed by a customary process.'[61]

Since the maternal line was the cornerstone of Asante society, children could be removed from a father's protection by a male relative on the mother's side if the father's duty of care fell below what was expected, including if the father were 'too poor to bring up the child properly.'[62] However, by the mid-1930s, Allman suggests that the *abusua's* authority over its children only existed in a vestigial form and had largely been forgotten. Instead, reformulated by colonial economics and Westernised ideas of family, the process of fathering became conflated with a status of 'fatherhood' which granted men 'inalienable' rights of ownership over their children without any corresponding duty of care.[63] In this respect, the formal growth of an Akan patriarchy undercut the support previously granted by the strength of ties to the matrilineal kin. According to Allman and Tashjian, the burden of domestic reproduction which had been 'shared via a complex web of fluid social relationships between matrilineal kin and conjugal units [now] fell squarely on the shoulders of Asante's colonial mothers.'[64] This progressively

[60] T.C. McCaskie, 'Accumulation: Wealth and Belief in Asante History: II the Twentieth Century', *Africa*, 56.1 (1986), 3–23 (p. 13); see also, Ivor Wilks, *Asante in the Nineteenth Century: The Structure and Evolution of a Political Order* (Cambridge: Cambridge University Press, 1975), p. 673; Gareth Austin, *Labour*, pp. 140–50.

[61] J.B. Danquah, *Gold Coast: Akan Laws and Customs and the Akim Abuakwa Constitution* (London: G. Routledge & Sons, 1928), p. 189.

[62] Rattray, *Law*, pp. 8–10; see also, Allman and Tashjian, p. 86.

[63] Allman, 'Fathering, Mothering and Making Sense of Ntamoba', pp. 312–13; see also, Dorothy Dee Vellenga, 'Who Is a Wife? Legal Expressions of Heterosexual Conflicts in Ghana', in *Female and Male in West Africa*, ed. by Christine Oppong (London: George Allen & Unwin, 1983), pp. 144–55.

[64] Allman and Tashjian, p. 125.

bound infant welfare to the wealth of individuals, rather than to that of the wider kin group.

The cocoa economy also accompanied significant and often gendered changes in food supply and diet. Within Akan marriages or in the relationship between lovers in Asante, the provision of food from man to woman is absolutely central. In fact, the Akan-Twi verb stem *di* (to consume or enjoy) refers to eating as well as to sex. To some extent, traditional Asante unions were centred on this reciprocal exchange of food for cooking and sex. Prior to colonisation, the male provision of food was presented in the form of land for food farming and, more directly, in the form of additional food, often animal products caught or purchased with extra-subsistence income. In fact, supplying one's wife with relish-food contributed to the construction of Asante masculinity since 'if the man lives with the matrikin, thin soup sent by the wife could be a source of embarrassment to him.'[65] Indeed, when men went to their farms, Purcell recorded that 'much of this time may be passed merely in setting steel foot traps in the forest for game.' In the late 1940s, these exertions meant that 'the total amount of meat obtained by trapping the several species of small antelope is much higher than we had earlier expected; the consumption is much higher than in the Northern Territories.'[66] However, even as Purcell was writing, this arrangement was beginning to change. Cash-earning gained greater importance across the South and cash-for-food increased relative to the physical provision of food or land. Into the postcolonial period, Abu explained that;

> "Chop money,' the Ghanaian English phrase for "money for food," is the subject of much marital strife... Sisters living together and in a position to observe the contents of each other's cooking pot are easily aware of how well each is supported by her husband or lover ... Comparing the 'chop money' is considered to be a prevalent feminine vice.'[67]

Although the provision of chop-money contained some social scrutiny, as a means of spousal support it is particularly problematic. As Allman and Tashjian have explained, when men physically brought the food they were to contribute to that day's meal, it was clear when it was not enough. However, in the form of chop-money, this form of familial support 'placed the burden of making it sufficient on the wife and her resourcefulness.'[68]

---

[65] Katherine Abu, 'The Separateness of Spouses: Conjugal Resources in an Ashanti Town', in *Female and Male in West Africa*, ed. by Christine Oppong (London: George Allen & Unwin, 1983), pp. 156–68 (p. 161); for an insight into the relationship between food and masculinity see Stephan Miescher, *Making Men in Ghana* (Bloomington: Indiana University Press, 2005), pp. 121, 131–32.
[66] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', pp. 96, 99.
[67] Abu, pp. 160–61.
[68] Allman and Tashjian, p. 66.

Since male involvement in food growing was traditionally fairly limited, men's movement out of the food economy did little to disrupt the food security of the average Akan family. However, as men moved away from the provision or acquisition of supplementary foodstuffs, nutrition security was increasingly equated with one's standing in the emergent cash economy. Increasingly, dietary supplementation was defined by cash wealth and Purcell found that 'many are too poor to buy meat from the market or obtain it from a trapper.'[69] By the late 1940s, Marjorie Brown, the Gold Coast's first Nutrition Officer, described the general pattern of the forest diet;

> 'The main meals consist, almost invariably, of a mass of starchy food served with a soup or stew. The soups and stews always contain pepper, tomatoes and onions and there is usually at least one other vegetable, more commonly there is some each of okros, garden eggs and spinach and there may be a few beans. Meat and fish are used when they are available and can be afforded. This basic recipe gives a plain soup.'[70]

The difference between this recipe and those socially-stratified but still meat-heavy diets given by Bowdich for the early nineteenth century [see Chapter 1] suggests a remarkable decline in supplementary, relish foods for the average family.[71] Bound as it was to sexuality and an idealised masculinity, the provision of chop-money or extra-subsistence food was particularly sensitive and the norms of conjugal interaction made it difficult for wives to address their husbands when their chop-money fell short.[72] Any such reduction in individual circumstances could impinge on the health and nutrition of dependent children. In the past, women were more able to remove themselves and their children from a poorly supported domestic environment, leaving behind only their rights over food crops which would only be productive for a few more years. However, as kin relationships changed in favour of the father, and as women's contributions to the cultivation of cocoa grew, any such relocation necessitated abandoning long-term investments in this new, dominant form of wealth as well as rights over their children.[73] Into independence, most women were said to add to their chop-money, meaning dietary supplementation was increasingly reliant on female cash-earning.[74] Even in the nineteenth century, Coppin found that, 'by way of a hard life', 'a strong, healthy middle

[69] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 4.
[70] Marjorie Brown, 'Nutrition in the Gold Coast: A Summary of information relating to the present position of nutrition in the Gold Coast', in *Conférence interafricaine sur l'alimentation et la nutrition. Dschang, Cameroun, 3-9 Octobre 1949* (Paris: La Documentation Française, 1949), pp. 96–103 (p. 98).
[71] T.E. Bowdich, *Mission from Cape Coast Castle to Ashantee: With a Statistical Account of That Kingdom and Geographical Notices of Other Parts of the Interior of Africa* (London: John Murray, 1819), p. 319.
[72] Abu, p. 161.
[73] Allman and Tashjian, p. 65.
[74] Abu, pp. 160–61; Christine Oppong, *Middle Class African Marriage: A Family Study of Ghanaian Senior Civil Servants* (London: George Allen & Unwin, 1981), pp. 87, 95.

aged looking woman in a rarity.'[75] Given the increasingly strained livelihoods of Asante women in the twentieth century, it is little surprise that Colbourne *et al*'s 1940s survey noted that, 'below the age of 16 years equal proportions of both sexes showed stigmata of malnutrition, but above that age deficiency signs were noted in 17 out of 76 females examined but in only three out of 50 males.'[76]

Spurred on by the need for cash as economic security, Asante women turned to the internal food markets, the colonial courts and the Gold Coast's emerging urban spaces in an attempt to secure the economic agency necessary to provide an adequate diet for themselves and their dependents in this new environment. Although matrilineal ineAsante women wrested land from their husbands, were donated land by their kin or bought land with the profits of their entrepreneurship in order to become exploiters of employable labour themselves.[77] By the 1950s, Polly Hill found that nearly half of the sedentary cocoa famers in Akim were women.[78] However, increasing demands on maternal time and energy outside of the household can significantly affect the nutritional status of their infant children. The European experience suggests that maternal employment closely correlates with child survival. For instance, in Lancashire during the economic crisis of 1868 and in German-occupied Lille during the First World War, the rise in maternal unemployment actually led to a decline in infant mortality as mothers were able to stay close and care for their young children, despite the harsh local economic conditions.[79] The inverse was probably true for a growing number of women in the colonial Gold Coast since, 'with farming and selling occupying the attention of many women, the daily care of young children may be partly in the hands of girls who are only a little older than those in their care.'[80]

Although Asante mothers were well aware that 'the children often become seriously ill at the time of weaning, or soon after, recognising as well many of the symptoms of kwashiorkor', most were prone to forego the social insurances of the past in order to deal

[75] W. Terry Coppin, 1884. Quoted in, Gareth Austin, *Labour*, p. 172.
[76] M.J. Colbourne and others, 'A Medical Survey in a Gold Coast Village', *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 44.3 (1950), 271–90 (p. 282).
[77] Dorothy Dee Vellenga, 'Matriliny, Patriliny, and Class Formation Among Women Cocoa Farmers in Two Rural Areas of Ghana', in *Women and Class in Africa*, ed. by Claire Robertson and Iris Berger (New York: Africana Publishing Company, 1986), pp. 62–77.
[78] Polly Hill, 'Women Cocoa Farmers', *Economic Bulletin of Ghana*, 2.6 (1958), 70–76.
[79] Marco Breschi and Massimo Livi Bacci, 'Month of Birth as a Factor in Children's Survival', in *Infant and Child Mortality in the Past*, ed. by Alain Bideau, Bertrand Desjardins, and Hećtor Peŕez Brignoli (Oxford: Oxford University Press, 1997), pp. 157–73 (pp. 161–62).
[80] Grant, *Nutrition and Health*, p. 7.

with the increasingly demanding positions of mother and wife.[81] This was a particular problem for younger mothers who, in the early 1950s, reported an earlier age for weaning than those aged over thirty-five years. For younger women, pregnancy was the reason most frequently given for the cessation of breastfeeding, while older women generally weaned their babies due to farm work.[82] Although age-related declines in fertility will have played a part in this, it is also likely that the economic security eked out by older women allowed them a greater degree of agency over their childbearing and the care of their children. Older women were more likely to have access to their own cocoa farms, to have capital accumulated through the longer-term sale of foodstuffs or, at least, to have the support of their older children. Younger women were more likely to need the social insurances afforded by large numbers of children. The relationship between infant nutrition and maternal employment outside of the home is complex and generally relates to whether the loss of maternal care is made up for by additional income or food production.[83] Of course, this trade-off is highly individualised and depends on personal economic status, rather than localised levels of food or nutrition security. In this environment, if household demands for cash exceed the earning power or productive capacity of a mother, exertions outside of the home, especially in terms of time, may well be detrimental to the nutritional status of a young child.

Increasing demands on household labour did not stop with married parties either. While education preceeded fertility limitation for some families, the earning power of children was more easily realised and more readily exploited for others.[84] In the more sparsely populated Brong area, an Akan cocoa farmer with five wives and twenty-seven children told researchers that 'I wish I had even double the number of children I have at present … there would be no need to engage labourers to weed my cocoa farm and to help in the plucking and in carrying the dried beans to the nearest weighing station if I had more children.'[85] This fits with Akurang-Parry's findings which saw that children – and especially female children who were less likely to have money spent on their

[81] Faye Woodard Grant, 'Nutrition and Health of Gold Coast Children. II. Care and Physical Status of Children', *Journal of the American Dietetic Association*, 31.7 (1955), 694–702 (p. 697).
[82] Grant, 'II', p. 697.
[83] For more on this complicated relationship, albeit with limited relevance for the historian, see, for instance, Joanne Leslie, 'Women's Work and Child Nutrition in the Third World', *World Development*, 16.11 (1988), 1341–62; Patricia L. Engle, 'The Effect of Maternal Employment on Children's Welfare in Rural Guatemala', *New Directions for Child and Adolescent Development*, 20 (1983), 57–75; Marie T. Ruel and others, *Urban Challenges to Food and Nutrition Security: A Review of Food Security, Health, and Caregiving in the Cities* (Washington, D.C.: IFPRI FCND Discussion Paper No. 51, 1998), p. 40.
[84] Allman and Tashjian, pp. 94–96.
[85] Quoted in, Barrington Kaye, *Bringing up Children in Ghana: An Impressionistic Survey* (London: George Allen & Unwin, 1962), p. 23.

education – were frequently incorporated into the growing business of porterage throughout the Gold Coast well into the 1940s.[86] In 1911, one Medical Department officer described 'the distressed appearance of the cocoa carriers along the road':

> 'All day long a procession of them passed to the south, old men and women, children of all ages, each staggering under a too heavy burden … their condition of profuse perspiration and laboured breathing recalling the appearance of an athlete after some supreme effort.'[87]

Relative to the nineteenth century, the ubiquitous production of cocoa and the diversifying commodities market encouraged a rather different perception of subsistence and a more concerted focus on extra-subsistence pursuits. In practice, this meant that the burdens and rewards of the cocoa economy were shared inequitably across households and across the kingdom. In a recent article, Austin has convincingly explained the cocoa boom was not built on the substitution of leisure for labour. Instead, cocoa encouraged a reallocation of resources from the less productive cash-earning activities of the nineteenth century to the more productive ones offered by an exotic new crop. This surge of productivity ameliorated the loss of unfree labour and facilitated the employment of free labour.[88] However, it seems unlikely that, emboldened by an overtly patriarchal colonial administration, the exploitation of familial labour was not an important bridge in this broader transition.

This gendered division of labour and food distribution may well have contributed to maternal malnutrition and likely contributed to a stillbirth rate which was consistently higher than any other region in the colony [Table 3.1]. In Gambia, Ceesay et al found that high-protein and high-energy prenatal dietary supplementation 'reduced retardation in intrauterine growth' and 'was associated with a substantial reduction in the prevalence of stillbirths and early neonatal mortality.'[89] Of course, the frequent incidence of stillborn babies will interact with the forest's specific disease burden, especially the hyperendemicity of malaria. However, why Ashanti had a notably higher incidence of

[86] Kwabena O. Akurang-Parry, '"The Loads Are Heavier than Usual": Forced Labor by Women and Children in the Central Province, Gold Coast (Colonial Ghana), c.1900-1940', *African Economic History*, 2002, 31–51.
[87] Gold Coast Government, *Medical and Sanitary Department Report*, *1911* (Accra: Government Printer, 1912)
[88] Gareth Austin, 'Vent for Surplus or Productivity Breakthrough? The Ghanaian Cocoa Take-Off, C. 1890–1936', *The Economic History Review*, 67.4 (2014), 1035–64.
[89] S.M. Ceesay and others, 'Effects on Birth Weight and Perinatal Mortality of Maternal Dietary Supplements in Rural Gambia: 5 Year Randomised Controlled Trial', *BMJ*, 315.7111 (1997), 786–90 (p. 786).

stillbirths than the Eastern and Western regions or the Trans-Volta – all areas with similar levels and forms of endemic disease – points to socioeconomic differences.

Table 3.1: Regional stillbirth rates for hospital deliveries, 1954
Gold Coast Government, *Medical Department Annual Report* (Accra: Government Printer, 1954), p. 141

	Total births		%
Region	Live	Still	Stillborn
Accra	2114	339	13.82
Eastern	924	160	14.76
Western	1312	253	16.17
Trans-Volta/Togoland	480	90	15.79
Ashanti	1247	349	21.73
Northern Territories	1176	112	8.70
Total	7253	1303	15.21

Asante's fertile ecology and the lack of time needed to cultivate usually reliable crops like plantain meant that the Asante could enter a part-subsistence economic model without compromising their calorific intake to any great extent.[90] In fact, into the 1920s food farming complemented the production of cocoa, since young cocoa plants were shaded by taller food crops such as plantain and cocoyam.[91] The forest's general abundance also meant that, throughout the colonial period, 'the bulk foods, plantain, cocoyams, etc., are over-produced and much is left to rot in the farms … it is concluded that more is wasted than used.'[92] However, as early as the 1930s, the then Director of Agriculture recognised that the pursuit of cocoa had the potential to undermine individual nutritional status within the forest since 'the tendency is strong towards neglecting the production of food and using imported supplies instead.' He also recognised the potential for this to become a cyclical problem since, 'in some areas … the supply of land for shifting-cultivation is lessening fairly rapidly and the income from cocoa is likely to continue to decrease.' [93] In Nigeria, Collis et al also noted the perilous period transitioning from subsistence to cash-crop agriculture, explaining that 'some farmers appear to sell enough cocoa to be able to buy reasonable quantities of food for their families, but other families have much

[90] In Buganda, plantain attained near mythic status. Plantain could yield ten times the produce of a yam garden and be cultivated all year round but it provided only one tenth of the protein and a little under a quarter of the energy of a maize-based diet. See, C.C. Wrigley, *Crops and Wealth in Uganda: A Short Agrarian History* (Kampala: East African Institute of Social Research, 1959), pp. 7–8.
[91] Gareth Austin, *Labour*, pp. 54–55.
[92] W.H. Beckett, *Akokoaso: A Survey of a Gold Coast Village* (London: P. Lund, Humphries & Co., 1944), p. 76.
[93] TNA/CO/323/1570/7, Committee on Nutrition in the Colonial Empire, Economic Advisory Council: papers circulated, 1938. Memorandum by the Gold Coast Director of Agriculture, 'Agriculture in relation to Human Nutrition', 29/6/1938.

younger cocoa which has to be cared for with cash from the sale of their food crops. Hence they have a lower food intake.'[94] It is probably reasonable to assume that, in some cases, dietary deficiency in Asante had similar causes. As cash and cocoa assumed greater significance in the kingdom's economy, food could be sold to foster cocoa production and land previously dedicated to the growth of food crops could be redistributed under cocoa. In short, the food economy was increasingly neglected in favour of the cocoa economy, leading to what was described in 1943 as 'the anomaly of a rich (economically) area being qualitatively the worst fed.'[95]

When cocoa began to mature, the complementary relationship between food and cash-cropping reversed as the cocoa trees grew to form a shade canopy, denying light to shorter food plants. Progressively, and especially in densely populated districts, the land utilised for food cropping diminished, requiring modifications to modes of food production and acquisition.[96] Declining access to land, as well as newly diversified demands on household labour, promoted dietary changes. As early as the 1940s;

> 'The Medical Department has sounded a note of warning on the undeserved popularity which cassava has attained … harmful effects on growth and health will result if it replaces whole grain food such as millet, maize or rice.'[97]

Within ten years only plantain and yam outstripped cassava in terms of Asante's gross production.[98] Cassava was already prominent in food cultures across the region, especially amongst the Ewe-speakers of the lower Volta plain, where unreliable rainfall earned cassava the name *agbeli*, 'there is life.'[99] Introduced during the Columbian Exchange and initially the food of slaves or pigs, cassava grew in popularity as a reliable, high-yielding staple which could be grown on marginal land. By the 1930s, cassava began making inroads into Asante diets 1930s, replacing plantain in *fufu* and low-yielding yet

[94] W.R.F. Collis, J. Dema, and A. Omololu, 'On the ecology of child health and nutrition in Nigerian villages, parts I and II', *Tropical and Geographical Medicine*, 14 (1962), 140–63, 201–29.
[95] TNA/CO/859/68/1, Nutrition research survey: Gold Coast, 1941-1943. Minutes by S. Culwick on a follow up report on nutrition in the Gold Coast, 5/11/1943. Culwick has some history with these issues, fixating also on the negative consequences of cash crop prosperity in Buhaya, Uganda. See, Shane Doyle, *Before HIV: Sexuality, Fertility and Mortality in East Africa, 1900-1980* (Oxford: Oxford University Press, 2013).
[96] Gareth Austin, *Labour*, p. 66.
[97] TN TNA/CO/859/68/1, Nutrition research survey: Gold Coast, 1941-1943. E. Norton Jones, Secretary for Social Services, to the Colonial Secretary, 'Nutrition', 17/11/1943.
[98] *ADAR*, 1950/1, p. 23.
[99] See, E.V. Doku, *Cassava in Ghana* (Accra: Ghana Universities Press, 1969); James D. La Fleur, *Fusion Foodways of Africa's Gold Coast in the Atlantic Era* (Leiden: Brill, 2012), p. 167.

more nutritious foodstuffs around the farm.[100] By the time Grant undertook her fieldwork in 1952, she found that in Mampong, as in Ayeduase;

> 'The women of the area plant less legumes now than formerly, preferring to plant cassava because it grows prolifically and with little cultivation.'[101]

Considering that the usual method of weaning was such that, 'as the child grows he begins to eat bits of starchy food thrust into his hand. He may or may not be given maize porridge, but whenever he cries he is always offered something to eat.'[102] Combined with already short periods of child spacing and a tradition of early weaning – two aspects of Asante childrearing also influenced by the kingdom's cash-crop transition – this meant that the subsitition maize for cassava in weaning foods will have had a significant impact on the nutritional status of infants relegated to this staple. Although the income effect of cocoa production may well have outweighed the effect of this substitution for most, it probably played into a general decline of nutrition security, if not nutritional status per se.[103]

In fact, across the Gold Coast, nutritional status only improved during these years. Historical anthropometric data has found that the cohort of Second World War recruits born 1905–1920 outgrew the cohort of First World War recruits born in 1880–1893 by an astonishing two centimetres on average, implying a considerable improvement in health and nutrition during childhood.[104] Moradi et al suggest that, in Asante, these increases were driven by the income derived from cocoa production. However, they also likely reflect the liberation of unfree labour and the democratisation of access to subsistence, as well as improved healthcare and reductions in nutrition-disease interactions.[105] Of some thirteen thousand children under six months of age seen at child welfare centres around Asante in 1956/7, only 69 (0.53 percent) were considered malnourished. Nutritional deficiencies were far more common amongst older children and were clearly associated with weaning [Table 3.2]. However, improvements in average nutritional status cannot necessarily speak to changes in nutrition security. Moreover, such statistics can only partially address the details in the historical epidemiology of malnutrition,

---

[100] Fleur, pp. 155–81; T.C. McCaskie, *Asante Identities: History and Modernity in an African Village, 1850-1950* (Edinburgh: Edinburgh University Press, 2001), p. 48; Gareth Austin, *Labour*, p. 66.
[101] Grant, *Nutrition and Health*, p. 61.
[102] Russell, p. 110.
[103] Alexander Moradi, Gareth Austin, and Joerg Baten, *Heights and Development in a Cash-Crop Colony: Living Standards in Ghana, 1870-1980* (ERSA, 2013), p. 28.
[104] Alexander Moradi, 'Confronting Colonial Legacies—lessons from Human Development in Ghana and Kenya, 1880–2000', *Journal of International Development*, 20.8 (2008), 1107–1121 (p. 1113).
[105] Moradi, Austin, and Baten, pp. 27–28.

particularly the way in which food and nutrition related to space as well as to poverty, ethnicity and class. For instance, throughout the colonial period, only relatively wealthy agriculturalists had the time to invest in preventive care or regular infant welfare attendances, whereas urban Asante had regular access to these facilities. In Kumasi, in 1935, Williams found that around three-quarters of paediatric outpatients or admissions into city hospitals were from outside of the city. The welfare centre, on the other hand, was patronised mainly by those from around the town, leaving carers better informed and children less susceptible to severe deficiencies later on.[106] Since maternal time was increasingly fraught, committing to the long commute to and from the hospital was often untenable for rural parents. It is, therefore, unsurprising that when these children were eventually brought to Kumasi their nutritional status had declined beyond that of their urban counterparts.

Table 3.2: Incidence of malnutrition in Child Welfare Clinics by age, Ashanti Region, 1956-7
Source: PRAAD/K/ARG/13/4/37, Child Welfare Clinics (Midwives Returns). Incomplete returns from various clinics for September 1956 to April 1957.

Age	n. Cases	n. Malnourished	% Malnourished
<1 mo.	2,610	10	0.38
1-6 mo.	10,467	59	0.56
6 mo. - 2.5 yrs.	8,429	569	6.75
>2.5 yrs.	3,066	123	4.01

The majority of expatriate observers in the Gold Coast forest recognised that although severe deficiency may have been rare, sub-clinical malnutrition was absolutely ubiquitous. In rural Ayeduase, Grant found that, as late as the 1950s 'most showed some signs of protein deficiency.'[107] In 1953, Brown also noted that, although 'there are fortunately not many children who suffer from this severe form of kwashiorkor … there are many who suffer from kwashiorkor in a mild form.'[108] For Williams, who arrived in the Gold Coast around twenty years before Brown or Grant, malnutrition was an apparently normal part of childhood, explaining that 'the average child of 18 months weighs no more than he did at 9 months … he is pot-bellied and spindle-legged, peevish, helminthic, and in constant abdominal discomfort.'[109] At two years, children 'are nearly all thin, pot-bellied, unhappy, and suffering from all manner of diseases such as malaria,

[106] Cicely D. Williams, 'Maternal and Child Health in Kumasi in 1935', *Journal of Tropical Pediatrics*, 2.3 (1956), 141–46 (p. 142).
[107] Grant, 'II', p. 701.
[108] Marjorie Brown du Sautoy, *Some Gold Coast Foods or What to Eat for a Balanced Diet* (Accra: Government Printing Department, 1953), 20.
[109] Cicely D. Williams, 'Child Health in the Gold Coast', *The Lancet*, 231.5967 (1938), 97–102 (p. 99).

worms, yaws, scabies and ulcers.'[110] Ultimately, the narrative of nutritional *illness* was one of continuity in the face of economic growth. In 1958 the director of the Kumasi Central Hospital recognised that 'there were many cases [of kwashiorkor] seen at this hospital' and came to the conclusion 'that there is little improvement, if any, over the past 10 years in the nutrition of children.'[111] As colonial officials were often prone to do, Williams insisted that kwashiorkor related to maternal ignorance, explaining that, when she arrived in the Gold Coast in 1929, 'it was soon evident that malnutrition was a big problem, though poverty was not. There was little real shortage of money or food, but there was deep ignorance of how a child should be fed.'[112] It was also Williams' contention that malnutrition was broadly endemic and resulted from 'the usual diet in this country.'[113] However, the conclusions forwarded by Williams – as well as those insights proffered by Purcell, Grant and Brown – fail to countenance nutrition with historical perspective. Over the past thirty years the 'usual diet' in the country had changed. Money, too, only recently assumed real relevance with regards to diet and nutrition security and, where cash-earning did assume such relevance, it had to be integrated into the process of food acquisition. These factors all impacted upon the increasingly capitalistic economics of social reproduction, changing the methods by which Asante children were fed.

Throughout the colonial period, it seems likely that the kingdom's nutrition security was in decline, even if nutritional status was generally improving. The material benefits of Asante's integration into the global economy was felt by children born into the colonised kingdom, but failures to succeed in this economic environment could result in clinical malnutrition much more readily than in the immediate precolonial past, where food and nutrition security had been bound together in a complex system of familial responsibility. However, as the sanctity of such responsibilities began to erode, malnutrition was largely determined by individual position in the modern economy. This, as we will see, was something felt much more acutely by particular sections of society.

[110] WL/PP/CDW/B.1/3. 'Gold Coast Handbook of Nursing. Children's Section, Accra'
[111] PRAAD/K/ARG/13/3/12, Annual Report MOH, 1957-8, Kumasi Central Hospital Report, 1957, p. 23.
[112] Cicely D. Williams, 'Council on Foods and Nutrition', *Journal of the American Medical Association*, 153.14 (1953), 1280–85 (p. 1281).
[113] WL/PP/CDW/B.1/3, 'Gold Coast Handbook of Nursing. Children's Section, Accra.'

d. *Nutrition and gendered poverty in Southern cities*

The cocoa boom did not only affect childrearing in Southern forests. Increasing output and mounting profits had also allowed for the development of a form of urbanism across the South which was largely impossible in the Northern savannah [Map 3.1]. Coastal towns in particular swelled in order to ship forest produce and mediate the trade between indigenous inland producers and overseas buyers. Forest towns also grew, cash-crop agriculture and the concentration of gold deposits supporting a more diversified employment structure as well as a more profitable trading sector. By the time of the 1960 census a full quarter of those living in the Ashanti Region lived in towns with populations of five thousand people or more, with the vast majority residing in Kumasi. In the savannah only 7.9 percent lived in such large conurbations, nearly all of whom were in Tamale, the colonial government's distributive centre and administrative capital for the Northern Territories [Table 3.3].

Map 3.1: Towns with populations of 5,000 or more people, 1931
Source: A.W. Cardinal, The Gold Coast, 1931: A Review of Conditions in the Gold Coast in 1931 as Compared with Those of 1921 Based on Figures and Facts Collected by the Chief Census Officer of 1931, Together with a Historical, Ethnographical and Sociological Survey of the People of That Country (Accra: Government Printer, 1932)

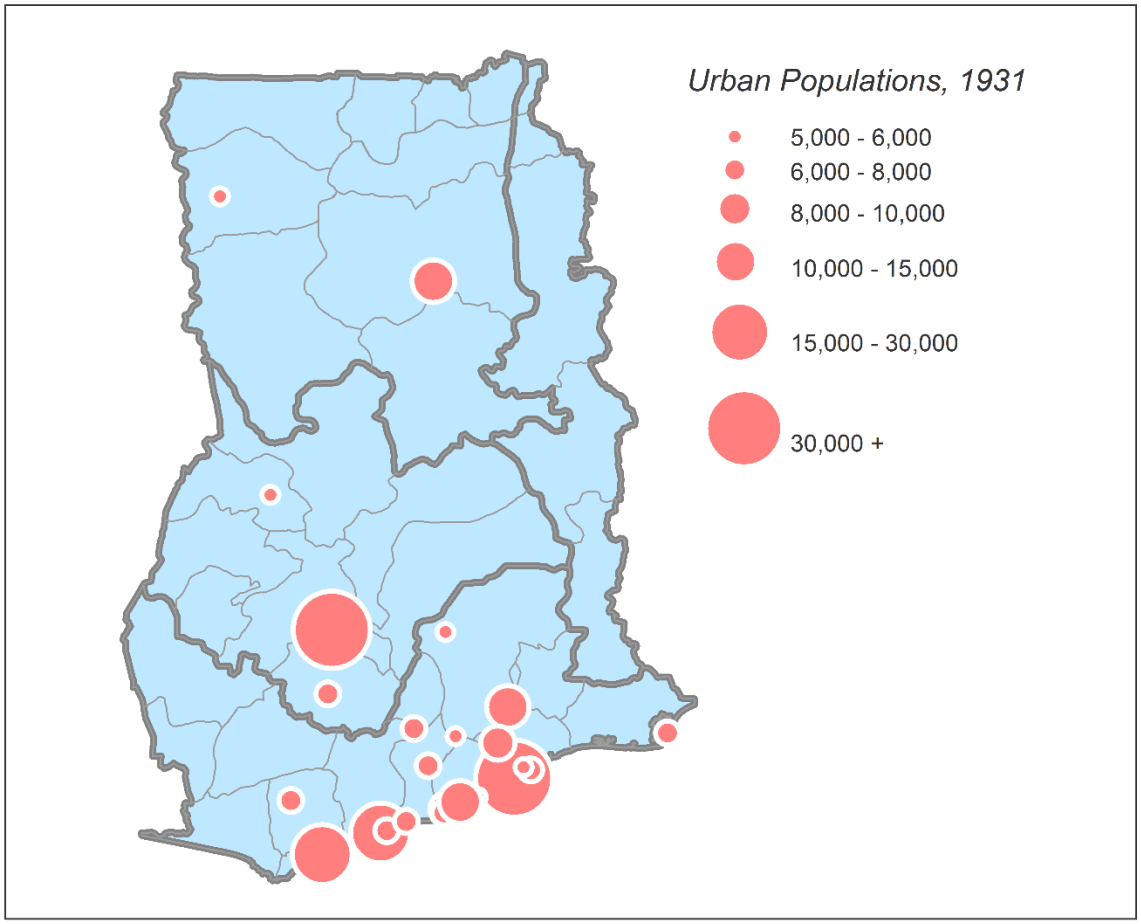


Table 3.3: Population living in urban areas, 1960
Source: Ghana Government, *1960 Population Census of Ghana* (Accra: Census Office, 1962)

	Total population	Population in towns >5,000 people	Population in towns >10,000 people	Percentage population in towns >5,000	Percentage pop. in towns >10,000
Accra	491,817	393,383	372,588	80.0	75.8
Ashanti	1,109,133	276,772	235,496	25.0	21.2
Brong-Ahafo	587,920	91,491	33,980	15.6	5.8
Eastern	1,094,196	220,765	140,449	20.2	12.8
Northern	1,288,917	101,639	83,600	7.9	6.5
Volta	777,285	102,101	42,276	13.1	5.4
Western	1,377,547	365,023	236,405	26.5	17.2
All regions	6,726,815	1,551,174	1,144,794	23.1	17.0

Where social reproduction was devalued in the traditional, agrarian economy of rural Asante, it gained greater worth in the rapidly expanding urban world. In the pre- and early-colonial periods, the Gold Coast's established towns were small, largely homogenous communities with balanced gender ratios and traditional domestic structures. In 1891, Accra recorded 6,467 men and 6,362 women, whereas Cape Coast was made up of 3,526 men and 3,603 women. However, by 1931 there were twenty percent more men in Accra than women.[114] In the new industrial towns, the pattern was more immediate and much more dramatic. The establishment of a railhead and a deep water harbour in 1898 and 1928 respectively transformed Sekondi-Takoradi from a collection of Ahanta villages into a bustling, multi-ethnic urban city. Here, in 1901, men outnumbered women at a rate of five to one.[115] In Sekondi-Takoradi, as in other industrial towns, such as the mining centres of Obuasi or Tarkwa, men usually arrived alone, driven by the growing need for cash income or by a lack of opportunity in their rural homelands. The women that followed were similarly drawn to the economic possibilities provided by this pattern of development. Since the colonial government was loath to provide their labour force with housing or food, the value of domestic and conjugal services became heavily inflated across the urban colony and the sale of cooked food, the provision of boarding houses and the sale of sex provided urban women with new and highly lucrative avenues for capital accumulation.[116] As Emmanuel Akyeampong has explained, 'women found

[114] Gold Coast Government, *Report on the Census of the Gold Coast Colony for the Year 1891* (Accra: Census Committee, 1892); Gold Coast Government, *The Gold Coast Appendices, Containing Comparative Returns and General Statistics of the 1931 Census* (Accra: Government Printer, 1932).
[115] Gold Coast Government, *Report on the Census for the Year 1901* (Accra: Census Committee, 1902).
[116] The gender history of Gold Coast urbanisation is thoroughly illustrated in Emmanuel Akyeampong, '"Wo Pe Tam Won Pe Ba" ('You like Cloth but You Don't Want Children') Urbanization, Individualism &

more spaces within the emerging social order to assert their autonomy, to accumulate wealth on their own, and to define marriage and what they expected of it.'[117]

As in the rural world, marriages and other conjugal relationships in the city were rarely the meetings of equals. In fact, the profitability of domestic and conjugal services and the surplus of male industrial labour meant that women were often better off than men in the urban economy. Initially, urban workers suffered through low but rising wages and enjoyed a stable cost of living, with any increase in wages providing commensurate improvements in the standard of living. However, during the 1930s, food prices rose sharply as real wages plummeted, leaving those dependent on wages particularly vulnerable throughout the rest of the colonial period.[118] By the late 1940s, Kofi Busia's social survey of Sekondi-Takoradi noted that;

> 'Men were seen at nights weaving mats or handbags in order to supplement their wages … the little extra they earned from weaving in the evenings enabled them to pay their rent which they could not otherwise pay, as their wages barely sufficed for their food.'[119]

Conversely, the 1953 Accra Expenditure Survey decided to sample only households with wage-earning heads, explaining that 'for other families, where occupations consist largely of trading and other activities, family income tends to move with prices, so that price changes have a less important effect.'[120] Akyeampong suggests that, during this period, it was men who really needed women, since 'urban life was a disappointment … dissolution was reflected in an intensification in gender conflict, mirrored in court cases, and a male elaboration of "romance" or "love."'[121] In this environment, women had a lower impetus to marry and a greater risk of exploitation if they did. Highlife songs like '*Wo Pe Tam Won Pe Ba*' ('You like Cloth but You Don't Want Children') and 'Give me the Bush Girl' speak to the conflict produced when romance was not forthcoming.[122]

Female economic security was, in part, achieved through their domination of the marketplace. In the nineteenth century, the production of and trade in foodstuffs was

---

Gender Relations in Colonial Ghana, c.1900-39', in *Africa's Urban Past*, ed. by David M. Anderson and Richard Rathbone (Oxford: James Currey, 2000), pp. 222–34.

[117] Emmanuel Akyeampong, 'Sexuality and Prostitution among the Akan of the Gold Coast C. 1650-1950', *Past & Present*, 1997, 144–73 (p. 157).

[118] Claire Robertson, *Sharing the Same Bowl?: A Socioeconomic History of Women and Class in Accra, Ghana* (Bloomington: Indiana University Press, 1984), p. 30.

[119] K.A. Busia, *Report on a Social Survey of Sekondi-Takoradi* (London: Crown Agents for the Colonies on behalf of the Govt. of the Gold Coast, 1950), p. 23.

[120] Gold Coast Government, *1953 Accra Survey of Household Budgets* (Accra: Office of the Government Statistician, 1953), p. 2.

[121] Akyeampong, 'Urbanization', p. 227.

[122] Akyeampong, 'Urbanization', p. 228.

understood as women's work and, with the urban expansion of these markets, women in town and county were culturally and practically primed to expand such enterprises. By 1948, women made up 73 percent of those employed in commerce in Accra and nearly 90 percent of women working in Accra were employed as traders [123] Ioné Acqua's social survey of late-colonial Accra found that female traders were, 'in many cases … the mainstay in the home and are, generally speaking, more economically independent than are their counterparts in western countries.'[124]

Urban women in the Gold Coast also enjoyed markedly more independence than rural women in the Southern colony.[125] In the same way that conjugal relationships in rural Asante were increasingly defined by economic individualism, urban women collectively defended these gendered economic interests in view of patriarchal social structures and the male-bias in salaried employment.[126] Originating in the freedoms of the colonial period, these trends seeped over into the independent era. By the early 1970s, the vast majority (well over ninety percent) of women in Accra lived with their matrilineal relatives rather than their husbands – largely in order to secure their standing and authority within the household. [127] These women put considerable effort into circumventing traditional systems of inheritance in order to provide specifically for their daughters' future security.[128] Even those women without extensive kin networks could find extra-entitlement support through the sale of sex or through flexible, informal relationships. When Margaret Field asked about the perception of prostitutes in Accra in the mid-1950s she was told:

> 'It is her work. When a man has to stay in a town like Kumasi one of the things he may need is a woman. Also travellers need somewhere to stay the night.'[129]

In both Accra and in Sekondi-Takoradi, prostitutes were almost exclusively from ethnic groups foreign to the immediate area.[130] Prostitution, simply, was one of several ways in

[123] Gold Coast Government, *Census of Population 1948, Report and Tables* (Accra: Government Printer, 1950).
[124] Ioné Acquah, *Accra Survey: A Social Survey of the Capital of Ghana, Formerly Called the Gold Coast, Undertaken for the West Africa Institute of Social and Economic Research, 1953-1956* (London: University of London Press, 1958), p. 72.
[125] Busia, *Report*, pp. 29–46.
[126] For economic individualism within the household see, for instance, Abu; Allman and Tashjian, pp. 45–78.
[127] Robertson, pp. 64–67.
[128] Robertson, pp. 48–56.
[129] M.J. Field, *Search for Security: An Ethno-Psychiatric Study of Rural Ghana* (London: Faber and Faber, 1960), p. 123.
[130] Acquah, p. 73; Busia, *Report*, pp. 107–8.

which migrant women could profit from their urban advantage and benefit from the inflated cost of social reproduction in the early colonial city.

Since informal earnings did not rely directly upon the saturated and often erratic labour market, female income in the city was often more stable than men's. Although trade unions and mutual assistance funds grew in popularity, labour movements and urban dissent were slow to develop and the colonial period saw the development of a disenfranchised and often desperately poor male proletariat.[131] Calls for wage increases throughout the early 1940s were compounded by the 1945 Department of Labour finding that 'the labourer in Government service earns on average ten shillings a month less than domestic servants, and very much less that the average earnings admitted by earners in trade.'[132] This post-war cost-of-living crisis was so great that it fermented the conditions for the 1948 Accra Riots which led, indirectly, to Kwame Nkrumah's 1951 election victory and the formal beginnings of decolonisation in Africa.[133]

Throughout this period unemployment, destitution, itinerancy, homelessness and hunger were growing yet uniquely male concerns.[134] These were particular problems for Northern migrants who, without the support of established kin, existed at the furthest fringes and, in Accra, made up most of the 'hard core of persons who habitually sleep out.'[135] These men were also the most likely to resort to crime whereas, between October 1946 and March 1948, only 3.2 percent of those convicted in Sekonid-Takoradi were women. Few of those men convicted were indigenous Ahanta and the vast majority were from outside of the Southern colony.[136] In Sekondi-Takoradi, social marginality and economic insecurity meant that the poor were 'habitually underfed' and that the destitute 'were all in a poor state of health and appeared to be suffering from nutrition deficiencies.'[137] For the very poorest in Sekondi-Takoradi, Busia found that diets consisted 'of little else besides disproportionate quantities of cheap starchy foods.'[138] In this environment, malnutrition was tied to poverty and food insecurity, to kinlessness

[131] The origin of trade unionism in the Gold Coast's mines is detailed in Jeff Crisp, *The Story of an African Working Class: Ghanaian Miners Struggles, 1870-1980* (London: Zed Books, 1984), pp. 56–93.
[132] TNA/CO/927/2/3, Series of reports by Miss P. Ady relating to wages and standards of living in Accra, 1945-1946. 'Wages and Standards of Living in Accra', p. 12.
[133] Andrew Aiken Watson, *Statement by His Majesty's Government on the Report of the Commission of Enquiry into Disturbances in the Gold Coast, 1948.* (London: HMSO, 1948); Dennis Austin, *Politics in Ghana, 1946-1960* (Oxford: Oxford University Press, 1970), pp. 66–68.
[134] Acquah, pp. 80–81; See also, Adame Labi and B. Selormey, *Report on the Enquiry into Begging and Destitution in the Gold Coast, 1954* (Accra: Government Printer, 1955); Busia, *Report*, p. 24.
[135] Acquah, pp. 53–54; Busia, *Report*, pp. 110–11.
[136] Busia, *Report*, pp. 106–7.
[137] Busia, *Report*, pp. 24, 110–11.
[138] Busia, *Report*, p. 23; Field, p. 33f.

and to unemployment, all particular problems for single, male migrants. According to Medical Department returns [Table 3.4], between 1951 and 1953, Accra's greatest nutritional problem was beriberi, a disease which, across the colony, affected perhaps twice as many men as women.[139] Although these figures will be complicated by frequent misdiagnoses, beriberi, a thiamine deficiency, was relatively well-understood by the 1950s. It was usually seen to accompany diets composed of polished white rice or, perhaps, cassava – economical alternatives to traditional staples but substitutions which were nutritionally deficient.[140] Pioneering Ghanaian epidemiologist Fred Sai found beriberi an 'almost unknown disease among the local inhabitants' and instead concentrating amongst 'Liberian immigrants working as beach boys … living on a diet largely consisting of polished rice.'[141] In the Gold Coast, beriberi reflected a particularly urban form of poverty where diet and food acquisition intersected with ethnicity, employment and social insecurity.

Table 3.4: Regional distribution of deficiency diseases reported in hospitals, 1951-3 collated
Source: Gold Coast Government, *Medical Department Annual Report, 1953* (Accra: Government Printer, 1954), p. 83.

	Beriberi	Pellagra	Scurvy	Other deficiency states'	Total nutrition-related
Accra	229	0	9	93	331
Trans-Volta	0	0	2	193	195
Eastern	41	47	11	2,239	2,338
Western	68	187	155	2,042	2,452
Ashanti	26	72	21	1,799	1,918
N.T.s	25	289	11	1,655	1,980
Total	389	595	209	8,021	9,214

Children, on the other hand, appear to have been better off in the cities than in the countryside across the South. The economic agency and group security exercised by urban women combined with greater access to healthcare and the flexible care-provision allowed by informal employment in order to grant considerably lower levels of nutritional illness in the city than in surrounding rural areas [Table 3.4].[142] Concerted

[139] Gold Coast Government, Medical Department Annual Reports [MDAR], 1942-55.
[140] For a comprehensive history of beriberi see, Kenneth J. Carpenter, *Beriberi, White Rice, and Vitamin B: A Disease, a Cause, and a Cure* (Berkeley, CA: University of California Press, 2000); For Purcell's account of beriberi in the Gold Coast, F.M. Purcell, 'Beri-Beri or Epidemic Dropsy', *West African Medical Journal*, 7.4 (1934), 143–45.
[141] Fred T. Sai, 'The impact of urban life on the diets of rural immigrants and its repercussions on the nutritional status of the community', *Ghana Medical Journal*, 6.4 (1967), 134–39 (p. 137).
[142] Female agency has been seen to reflect in infant mortality decline across the world. See, for instance, John C. Caldwell, 'Routes to Low Mortality in Poor Countries', *Population and Development Review*, 12.2 (1986), 171–220 (p. 184).

efforts to combat high rates of infectious disease in politically and economically sensitive areas also assuaged the threat of disease-nutrition interactions in the city. Public works addressed water supply and sewerage at the same time as health care was made free and much more accessible.[143] Child welfare clinics emerged first in the cities too, in Accra in 1921 and, by the end of the decade, in Sekondi, Kumasi, Cape Coast, Koforidua and Ho. In 1926, the colony's first paediatric hospital, the Princess Marie Louise Children's Hospital also opened in Accra. Between 1925 and 1930, attendances at infant welfare centres grew six-fold, from 20,000 to 130,000.[144] By 1932, infant mortality in Accra had fallen to 95 per thousand, down from 368 per thousand in 1916.[145] Maternal mortality and crude death rates also declined along similar lines.[146] By 1955, more than thirteen thousand children were on the registers of Infant Welfare Clinics around Accra and, according to Acquah, 'it would appear that all children are taken to the clinic during the first year of their lives.' The expanding cadre of midwives and allied health professionals which concentrated in the cities paid 'special attention to all premature babies, infants suffering from malnutrition and foster-children' and were said to 'endeavour to visit every new-born baby.'[147] In per capita terms, Accra had more doctors, more nurses, more beds and saw more patients than any other region.[148] In 1954, deliveries in Accra's hospitals accounted for nearly thirty percent of the entire colony's institutional deliveries.[149] However, between 1951 and 1953, Accra's hospitals reported, on average, only 3.6 percent of the colony's nutrition cases. The mechanism here is surely the same as that reported by Williams in 1935 Kumasi, with pervasive preventative medicine and the uptake of best practice offsetting the need for curative hospital care.[150]

Apparently the social and medical advantages of life in the city also outweighed the pervasive decline of traditional, family-based systems of social support which was especially apparent in the city.[151] Having become 'consuming units' and 'a burdensome charge on income', 'the children of dead relatives were, in some instances, being

[143] Quoted in, K. David Patterson, 'Health in Urban Ghana: The Case of Accra 1900-1940', *Social Science & Medicine. Medical Anthropology*, 13B.4 (1979), 251–68 (pp. 253–54).
[144] *MDAR*, 1925; 1930-1.
[145] Stephen Addae, *The Evolution of Modern Medicine in a Developing Country: Ghana 1880-1960* (Bishop Auckland: Durham Academic Press, 1996), pp. 227–39.
[146] PRAAD/A/CSO/11/5/1, Maternal mortality and morbidity in the Gold Coast, 1932; Patterson, p. 265.
[147] Acquah, p. 135; *MDAR*, 1955, p. 49.
[148] Gold Coast Government, *Report of the Commission of Enquiry into the Health Needs of the Gold Coast* (Accra, 1952), pp. 5, 31.
[149] *MDAR*, 1954, p. 141.
[150] Williams, 'Maternal and Child Health in Kumasi in 1935', p. 142.
[151] PRAAD/A/ADM/5/4/62, Welfare and mass education in the Gold Coast, 1946-1951, 'Report of the Department of Social Welfare and Community Development 1946-1951.'

neglected' by their adoptive families.[152] However, this appeared to present in troubling numbers of juvenile delinquents, unschooled and unruly, rather than in any epidemic of poorly-nourished waifs and strays.[153] In fact, children born around Kumasi and the Accra plains achieved a greater adult stature than their rural counterparts across the South.[154] Accra's indigenous Ga outgrew the rest of the Southern colony and presented in the Gold Coast Regiment's personnel files with a higher BMI and a greater average chest circumference as well.[155] Additional data shows that Accra schoolchildren were generally taller and weightier than Northern children of the same age.[156] This may also have had something to do with the greater prevalence of expensive, supplementary foods like meat and fish in the cities, especially given its relative decline in the countryside. As Cardinal noted in 1931, 'per capita consumption of meat is infinitely greater in the larger centres than in the rural districts where the people cannot be classified in any sense as meat-eaters.'[157] In the 1930s, Williams saw 'in every village' 'children, especially those of the toddler stage, so unhealthy as to be conspicuously unshapely.' She recognised the same pattern in 'many towns' but apparently saw infant ill health as a particular problem of village life.[158]

e. Nutrition and entitlement in the cocoa economy

As in the nineteenth century, the social epidemiology of malnutrition in the colonial Asante village was largely dictated by wealth. It related to access to capital and to spare time, to the availability of land to grow cocoa and to the availability of labour to work that land. Wealth largely dictated the quality and quantity of food available in the household. Likewise, the amount of time a family was able to spend on childcare generally depended upon maternal position within the household, as well as individual position within the wider economy. If a mother had the support of her husband, her older children or her matrikin, she would have had more time for her nursing child and

[152] Busia, *Report*, p. 94.
[153] Geoffrey Tooth, *A Survey of Juvenile Delinquency in the Gold Coast* (Accra: Government Printer, 1946).
[154] Moradi, p. 1114.
[155] Gold Coast Regiment personnel records, enlisted 1938-60. Alexander Moradi, 'Men under Arms in Colonial Africa: Gold Coast Regiment', anthropometric data provided by author, 2009.
[156] Compare *MDAR, 1948*, p. 16 with B.B. Waddy, 'Heights and Weights of Children in the Northern Territories of the Gold Coast', *Journal of Tropical Medicine and Hygiene*, 59.1 (1956), 1–4.
[157] A.W. Cardinal, *The Gold Coast, 1931: A Review of Conditions in the Gold Coast in 1931 as Compared with Those of 1921 Based on Figures and Facts Collected by the Chief Census Officer of 1931, Together with a Historical, Ethnographical and Sociological Survey of the People of That Country* (Accra: Government Printer, 1932), p. 104.
[158] Williams, 'Child Health', p. 97.

better food for herself and her at-risk children. Similarly, if she were able to benefit from the degree of land or capital necessary to employ extra-familial labour, then the burdens of production reduced and allowed her to address social reproduction instead. If she did not enjoy these advantages, if she were poor, then her children's nutrition would likely have been in question.

However, the colonial period saw a significant change in the demographics of wealth and the nature of poverty. The prevalence of unfree labour declined under colonial rule, meaning that poverty and nutrition insecurity was no longer the reserve of the unfree but was, instead, tied to an expanded notion of social status. Although conceptualising class is problematic in Africa, economic standing in colonial Asante was largely defined by individual distance from the diversifying means of production. Following the emergence of the cottage cocoa industry, the 'second stage of the capitalistic process' in Asante was the 'systematic large-scale employment of farm labourers.'[159] By 1938, the Nowell Commission explained that the cocoa industry was:

> 'Dependent on migrant labour which comes in from the Northern Territories, where money crops are inadequate … who tramp down to the cocoa districts from the north for the cocoa season and return by lorry to their homes and families in the food planting season.'[160]

Following the initial expansion of cocoa, the industry relied on hired labour working as either sharecroppers under the *abusa* or *nkotokuan* systems (one third of the crop was received by *abusa* farmers, while the *nkotokuan* earned a fixed number of loads), or as casual wage labourers, whose efforts were mainly used to establish new farms. In many respects, the development of cocoa in Asante followed a process of class formation and exploitation which was common in other parts of Africa. In Uganda, for instance, the growth of rural capitalism and the establishment of a landlord-tenant relationship allowed for the formation of group which Mamdani describes as 'kulaks', members of a 'petty bourgeoisie' which supplemented their family labour force with undervalued and politically unorganised migrant labour.[161] In colonial Asante, the intensified production of cocoa promoted similar forms of class formation and necessitated the exploitation of such labour.

Although the colonial environment was particularly trying for Asante mothers, whose precarious position could undermine the health of their young children, the unalienable

[159] Hill, *Migrant*, p. 187.
[160] G.E. Metcalfe, *Great Britain and Ghana: Documents of Ghana History, 1807-1957* (London: Thomas Nelson & Sons for the University of Ghana, 1964), p. 653.
[161] Mahmood Mamdani, *Politics and Class Formation in Uganda* (London: Heinemann, 1976), pp. 151–53.

rights of Asante women over the use of Stool lands assuaged the threat of hunger for those individuals able to capitalise on this advantage. The potential benefits of the new economy were not, however, open to everyone. While outside labour was welcome in the kingdom, both the colonial state and the Asante chieftaincy committed themselves to preventing the purchase of land by non-Asante Africans. In 1936, for instance, following the sale of land in the southern reaches of Asante to individuals from the Eastern Province, the Chief Commissioner, F.W. Applegate, explained to the *Asantehene* that, 'such procedure I think you will agree is bound to work deleteriously and again the common good of Ashanti.' The *Asantehene* agreed, subsequently warning chiefs that 'I should be glad if you and your Elders would take every possible precaution against the outright sale of Stool lands to strangers.'[162] Supported by the colonial government, Asante's hereditary rulers continued the monopolistic defence of Asante's 'broad forest rent.'[163] As Austin explains, for non-Asante labourers, 'lacking both capital and rights over forest lands, it was a remarkable achievement to become a cocoa farmer (farmowner) at all.'[164]

These exclusionary processes established a class of rural labourers disconnected from the subsistence economy and reliant on the market for both their food and nutrition security. In the precolonial nineteenth century there was no real value to the bulk foods which grew so prolifically across the kingdom. However, the cocoa boom dislocated the food economy from the wider economy and the number of immigrants and labourers without access to land increased at the same time that food crops were neglected. Cocoa brought more money into Asante and the rest of the South at the same time as demands for food outstripped its supply. The increasingly unstable food market and the threat of inflation meant that, by the late 1940s, prices controls had to be implemented across the region. By the 1950s, the lack of locally grown foodstuffs drove a demand for imported food which encouraged a flourishing black market and heavy inflation.[165] The Watson Commission, brought in to explain the social conditions behind the 1948 Accra riots, found that 'the prices of staple foods on a number of urban and country markets [were] probably about 2½ times the pre-war level.'[166] Despite stresses in the rural food economy, the cocoa belt ran an impressive surplus in terms of food production. In Akim-Abuawka, for instance, between June 1952 and May 1953 the difference between production and

[162] Both quoted in Gareth Austin, *Labour*, pp. 257–58.
[163] Gareth Austin, *Labour*, p. 258.
[164] Gareth Austin, *Labour*, p. 260.
[165] PRAAD/K/ARG/2/1/9, 'Price controls, general, 1948-53.'
[166] Watson, p. 38.

consumption amounted to 15,000 tons of food crops.[167] However, this surplus production largely bypassed the rural market in favour of the greater purchasing power of the Gold Coast's urban areas. This movement was promoted by an Africanising state bureaucracy which, following the 1948 Accra Riots over the spiralling cost-of-living, recognised urban food security as an important tool for political dissent. Despite significant and mounting shortcomings in the rural food economy, the Akim-Abuawka survey plainly acknowledged that, as far as Nkrumah's incoming CPP government was concerned, 'the main agricultural problem in the Gold Coast at the present time is the supply of foodstuffs to growing urban communities.'[168]

Such conclusions pave over the weaknesses of a rural food economy which had facilitated the production of malnutrition as a failure of entitlement. In the mid-1990s, a World Bank study concluded that variations in food prices in Ghana 'explain a significant proportion of the variance of the conditional probability of child survival.' Simply increasing the prices of three staple foods (maize, cassava and plantain) by ten percent decreased median child survival time by almost 12 percent.[169] Modified conclusions are probably applicable for the colonial Gold Coast, where fewer children were entirely dependent on a less expansive market economy. Where they were, though, they were particularly vulnerable in times of familial or local economic crisis. The nutritional impact of one such crisis – the 1937-8 cocoa 'hold-up', a widespread refusal of farmers, chiefs and brokers to sell cocoa to expatriate trading firms – was obvious to Purcell;

> 'On being stationed for a few months in 1938 in Koforidua, on the fringe of the forest, I have observed some ten cases of severe malnutrition, of which six were pellagrous; nearly all were children of Kotokoli parents, indigenous northern immigrants, dependent on uncertain employment by the local cocoa farmers. The hold-up of cocoa in the year 1937 caused much economic hardship: labourers were not paid. As a class the local Kotokolis were underfed; infantile pellagra [kwashiorkor] among them in 1938 was probably associated.'[170]

[167] Gold Coast Government, *Agricultural Statistical Survey of South-East Akim Abuakwa 1952-3* (Accra: Office of the Government Statistician, 1953), p. 10.
[168] Gold Coast Government, *Akim Abuakwa Survey*; see also, Gerardo Serra, 'Towards a Political Economy of Statistics: A Study of Household Budget Surveys in the Gold Coast, 1945-1957' (presented at the African Economic Development: Measuring Success and Failure, Simon Fraser University, Vancouver, 2013).
[169] Victor Lavy and others, *The Impact of the Quality of Health Care on Children's Nutrition and Survival in Ghana*, Living Standards Measurement Study (Washington, D.C.: World Bank, 1995), pp. 1–68 (p. 16).
[170] Purcell, *Diet and Ill-Health*, p. 43; For the specifics of the hold-up see, Rod Alence, 'The 1937-1938 Gold Coast Cocoa Crisis: The Political Economy of Commercial Stalemate', *African Economic History*, 1990, 77–104.

It is reasonable to assume that any real decline in the purchasing power of a market-dependent farmer or labourer meant simultaneous reductions in individual entitlement as well as the nutritional status of the individual and their dependents. Here the occupational makeup of rural Asante is important. If our individual produces food as a smallholder or a sharecropper they get their return in food, do not have to endure the vagaries of the market and are less likely to suffer significantly through those food shortages accompanied by price increases. Wage labourers, on the other hand, have to deal with erratic price increases in a highly imperfect capital market. Even if smallholders do not produce food, in the wake of drought or in harsh market conditions they will not be incomeless, they will just endure a lower income, which may not facilitate the employment of labourers. Similarly, those who sell services, labour or handicrafts are more exposed to price fluctuations as not only is their income less, in relative terms, but their clients or employees are less likely to be able or inclined to buy their services or products.[171] It is for this reason that – to take a famous example of Sen's – Bengali barbers starved during the 1943 famine.[172] It is for largely the same reasons that the 1937 cocoa hold-up resulted in kwashiorkor for Kotokoli children.

For some, food insecurity as a result of economic exclusion will have been compounded by social marginality. In Uganda, Bennett and Stanfield summarised the mechanism behind migrant susceptibility to total-calorie deficiencies, explaining that marasmus 'is more likely to occur in the children of poorly nourished mothers with recurrent untreated fevers who do not receive ante-natal care, who deliver at home and whose lactation fails. This group of factors might have occurred more in poor immigrant women who had not yet mastered the local language or learnt how to use medical services.'[173] Twenty years after Purcell's investigations in Koforidua, the director of the Kumasi Central Hospital still recognised an ethnic dimension in the epidemiology of nutritional disease, noting that there are 'many patients from Northern Ghana. Most of the paupers come from this area.'[174]

If insufficient household income is taken as the root socioeconomic cause of severe malnutrition, the income of an indigenous Asante, even if it was equal to that of a migrant labourer, was often buoyed by land ownership, kinship and familial support. In

[171] Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford University Press, 1981), pp. 5–6.
[172] Sen, pp. 67, 154–55.
[173] F.J. Bennett and J.P. Stanfield, 'The Pattern of Malnutrition in Uganda', *Journal of Tropical Pediatrics*, 17 (1971), S5-10 (p. S7).
[174] PRAAD/K/ARG/13/3/12, Kumasi Central Hospital Report, 1957, p. 25.

general, the movement away from slavery and pawnship preceded a historic improvement in the bargaining power of migrants in the forest.[175] However, due to their limited 'entitlement package' and their lack of entitlement to socialised sources of food, it was the landless and rootless parts of the population that felt the highs and lows of the food market most acutely. Taking Austin's terminology, labourers could not access the domestic security afforded by the 'forest rent' as 'principles' but only as 'agents.'[176] This growing demographic was required to succeed continuously in order to avoid conjunctural poverty yet were constantly in danger of falling, along with their dependants, into a state of nutritional stress brought about by any relative decline in their economic fortunes, a new type of structural poverty.[177] For this group, sporadic bouts of nutritional disease were a very real possibility, dependant on individual ability to adapt to economic change. If the impact was a temporary absence of animal protein, for instance, a young child may lapse into a state of kwashiorkor, the severity of which was determined by the amount of available additional sources of protein and the length of the absence of sufficient protein. However, if an individual or family was unable to modify their entitlement package sufficiently they, along with their dependents, could easily suffer through serious total calorie deficiencies. As Purcell explained in the 1930s, 'plantain is eaten by all; it is abundant and cheap, but the price may rise 100% from 25 for 1d to 12 for 1d, in times of relative scarcity. (Such an increase should embarrass only the very poorest).'[178] Progressively, though, such increases had the potential to embarrass more people and the 'very poorest' was a category which was only increased with the trajectory of Asante class formation. For perhaps the first time in Asante history, significant swathes of the population were at risk of food insecurity and forms of malnutrition resultant from new, structural failures in the kingdom's internal food economy.

[175] Gareth Austin, *Labour*, pp. 424–30.
[176] Gareth Austin, *Labour*, p. 429.
[177] This pattern can also be seen in southern Uganda, see, Nott.
[178] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 96.

4. HUNGER IN THE 'LABOUR RESERVOIR'

The rapid development of the Gold Coast's gold and cocoa industries demanded massive increases in labour for the mines and plantations across the South, much of which originated in the Northern Territories. The most enduring argument discussing the origins and effects of this mass migration holds that the colonial government was responsible for the 'underdevelopment' of the North in order to feed the needs of Southern industry. As an agent of metropolitan capital primarily concerned with the extraction of gold and cocoa, the colonial state exploited the 'resources' of the savannah by establishing the Northern Territories as a labour reservoir.[1] This promotes the 'dependency theory' framework of development which sees the wealth of the metropole built upon the underdevelopment of a colonised periphery, the wealth of which, in turn, depends upon the underdevelopment of its peripheries.[2] Or, as Samir Amin has generalised with regards to Africa, 'the necessary corollary of the "wealth" of the coast was the impoverishment of the hinterland … the culmination of the colonial trade was balkanisation, in which the "recipient" micro-regions had no "interest" in "sharing" the crumbs of the colonial cake with their labour reserves.'[3] Here migration into the centre was detrimental to the development of productive agricultural advances in the outlying regions.[4]

The problem with dependency theory is, as Jean-François Bayart has most famously explained, that its 'woolly universalism' overlooks the depth and variance of the African past in favour of an ahistorical and explicitly political reading of the world.[5] By assuming that colonialism and globalisation have charted universal patterns of peripheral poverty, we deny the relevance of precolonial history, the spatial variability of African economies and the efficacy of African self-determination. As we have already seen in Asante

[1] Dependency theory analyses of Gold Coast history can be found in, Piet Konings, *The State and Rural Class Formation in Ghana: A Comparative Analysis* (London: KPI, 1986); Nii-K. Plange, 'Underdevelopment in Northern Ghana: Natural Causes or Colonial Capitalism?', *Review of African Political Economy*, 1979, 4–14; Rhoda E. Howard, *Colonialism and Underdevelopment in Ghana* (London: Croom Helm, 1978).

[2] Two classic texts regarding underdevelopment and economic dependency are; André Gunder Frank, *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brazil* (London: Monthly Review, 1967); Samir Amin, *Unequal Development: An Essay on the Social Formations of Peripheral Capitalism* (Hassocks: Harvester Press, 1976).

[3] Samir Amin, 'Underdevelopment and Dependence in Black Africa-Origins and Contemporary Forms', *The Journal of Modern African Studies*, 10.4 (1972), 503–24 (p. 523).

[4] Samir Amin, 'Introduction', in *Modern Migrations in Western Africa*, ed. by Samir Amin (Oxford: Oxford University Press, 1974), pp. 65–151.

[5] Jean-François Bayart, *The State in Africa: The Politics of the Belly* (London: Longman, 1993), pp. 2–10.

[Chapter 3], insights drawn from demography and anthropology are indispensable for understanding responses to capitalist development and attendant changes to poverty and nutrition. However, this is not to deny the value of the centre-periphery model. The health inequalities and infrastructural disparities seen in modern Ghana largely reflect the priorities of an extractive colonial system. Attendance first to the health needs of the colonists and then Southern producers while overlooking the greater demands of Northern health reflects the relative worth of human capital in this new economy. The erosion of nineteenth-century polities and market integration across the colony and the wider Empire also preceded a general decline in purchasing power for Northern subsistence farmers. Though corralled by coercive externalist systems, the utilisation and value of labour migrancy resulted from a process of negotiation which was informed by environmental pressures and carried out between those engaging in outmigration as well as those left behind.

a. Health disparities and colonial infrastructure

At a fundamental level, nutrition is determined by the provision of adequate care and the provision of adequate food. The adequacy of any household or community's childcare and food supply are greatly influenced by localised patterns of infrastructure and state organisation. The provisioning of clean water, sanitation and power; the span and efficacy of public health campaigns and famine relief programmes; regulations regarding land management and working conditions; and a great number of factors besides these are all critically important in determining nutritional status. Particularly pertinent, however, is the general provision of healthcare and education. In an influential survey article, demographer Jack Caldwell outlined 'the routes to low mortality in poor countries.'[6] Explaining how poorer nations such as Costa Rica, Vietnam, Cuba and Sri Lanka could outperform rich nations like Oman, Saudi Arabia or Libya, Caldwell highlighted the various interactions between mortality decline and state and social organisation. In part, national successes resulted from per capita expenditure on health and social care, improved staff numbers vis-à-vis total population and a greater proximity to modern healthcare. However, as in oil-rich Saudi Arabia or Libya, the proliferation of modern medical services did not translate into lower child mortality

[6] John C. Caldwell, 'Routes to Low Mortality in Poor Countries', *Population and Development Review*, 12.2 (1986), 171–220.

until a cohort of educated young mothers grew up to recognise its worth.[7] The social orientation of individual communities was also found to be important. Female autonomy, a regard for education and a history of egalitarianism, radicalism, and political activity create an environment where health facilities and schools are demanded and utilised but are not accepted uncritically.[8] Although these determinants are wrought over the course of centuries, the state still determines whether its citizens have the means to address such traditions. The state determines access to healthcare and education but also to political franchise and, in that, governments can mediate our understandings of health and our demands for greater wellbeing.

For decades, access to health, education and even politics in Africa was mediated by colonial administrations. To colonial governments and to Christian missionaries, these were, in part, tools to control and coerce; they were often informed by racist ideologies and were viewed with suspicion by local populations.[9] On a fundamental level, the scientific perception of health often did not fit with indigenous understandings of illnesses caused by 'immutable and supernatural laws.'[10] Here, Medical Officers lamented that their patients;

> 'Failed to take proper advantage of the medical facilities available to them … not a single one of the people we advised to come to hospital for treatment actually came, for like so many people in the Gold Coast they regarded the hospital as the last resort of the sick when all traditional medicines had failed.[11]

Although later campaigns against trypanosomiasis and yaws made use of powerful and effective medicine, Western medicine was approached cautiously.[12] Surgery and anaesthesia won quick respect but many preferred their own medicines for the treatment of leprosy, blindness and infertility.[13] The popularisation of healthcare in the British Gold Coast was, therefore, rather haphazard, informed by the successes and failures of British healthcare as well as by traditional beliefs. As late as the 1980s, one study in Northern

[7] Caldwell, 'Routes', pp. 173–78; See also, John C. Caldwell, 'Education as a Factor in Mortality Decline An Examination of Nigerian Data', *Population Studies*, 33.3 (1979), 395–413.
[8] Caldwell, 'Routes', pp. 182–94.
[9] The cultural shortfalls of colonised health and social care have been touched on, with regards to nutrition, in Chapter 1. The best general analysis of these issues is still, undoubtedly, Megan Vaughan, *Curing Their Ills: Colonial Power and African Illness* (Stanford, CA: Stanford University Press, 1991).
[10] P.A. Twumasi, 'Colonialism and International Health: A Study in Social Change in Ghana', *Social Science & Medicine. Medical Anthropology*, 15B.2 (1981), 147–51 (p. 147).
[11] M.J. Colbourne and others, 'A Medical Survey in a Gold Coast Village', *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 44.3 (1950), 271–90 (p. 289); see also, John M. Janzen, *The Quest for Therapy in Lower Zaire* (Berkeley: University of California Press, 1978).
[12] K. David Patterson, *Health in Colonial Ghana: Disease, Medicine, and Socio-Economic Change, 1900-1955* (Waltham, Mass.: Crossroads Press, 1981), p. 77.
[13] Patterson, *Health*, p. 27.

Ghana suggested that children's ambivalence to Western medicine could not be disentangled from its original introduction as part of an invasive foreign regime.[14] As Caldwell explains, access to 'services clearly play a role, although the message is that health cannot simply be bought.'[15] In the colonial world, the manner and the historical context in which these services were provided must also be borne in mind.

In the Gold Coast, the provision of public services was closely linked to the cultivation of capital and expatriate interests. In the extractive colonial economy, public service provision was usually oriented around the protection and advancement of its most valuable and immediate sources of human capital. In the earliest instances, Western medicine in West Africa concerned itself specifically with European health. With the ascendency of British rule, ill-health was understood as an explicit threat to colonial power in the new colony. For instance, British defeat and withdrawal from the 1864 Anglo-Ashanti war had been largely due to mass morbidity during the march into the forest. The successful 1874 campaign, on the other hand, was extensively planned to preserve troop health through the advanced establishment of hospital and quarantine huts, pre-planned camp sites and the provision of raised beds.[16] European mortality stayed high into the twentieth century though. In the 1890s, death rates amongst white officials ranged between 30 and 70 deaths per thousand and, in the first years of the colony, morbidity was so severe that there were two Governors at any one time so that one could always be on sick leave.[17] Medical Officers accompanied the colonial administration and health services began with the distribution of anti-malarial drugs to colonists in commercial and mining centres. Preventive healthcare was likewise created primarily for the benefit of government officials, with sanitary water and sewerage concentrated in a few areas. The state only granted the African population access to these new forms of healthcare when, as Twumasi puts it, 'cultural isolation was found to be an ineffective preventive measure.'[18]

The steady if piecemeal expansion of medicine and education was largely arranged around the vagaries of capital formation. Spending was dependent upon development policy and determined by the globalising market, concentrating around the productive centre of Asante and the commercial centres which were growing up around the coastal

[14] B. Bierlich, 'Injections and the Fear of Death: An Essay on the Limits of Biomedicine among the Dagomba of Northern Ghana', *Social Science & Medicine (1982)*, 50.5 (2000), 703–13 (p. 707).
[15] Caldwell, 'Routes', p. 178.
[16] Stephen Addae, *The Evolution of Modern Medicine in a Developing Country: Ghana 1880-1960* (Bishop Auckland: Durham Academic Press, 1996), p. 22.
[17] Twumasi, p. 147; Addae, p. 29.
[18] Twumasi, p. 147.

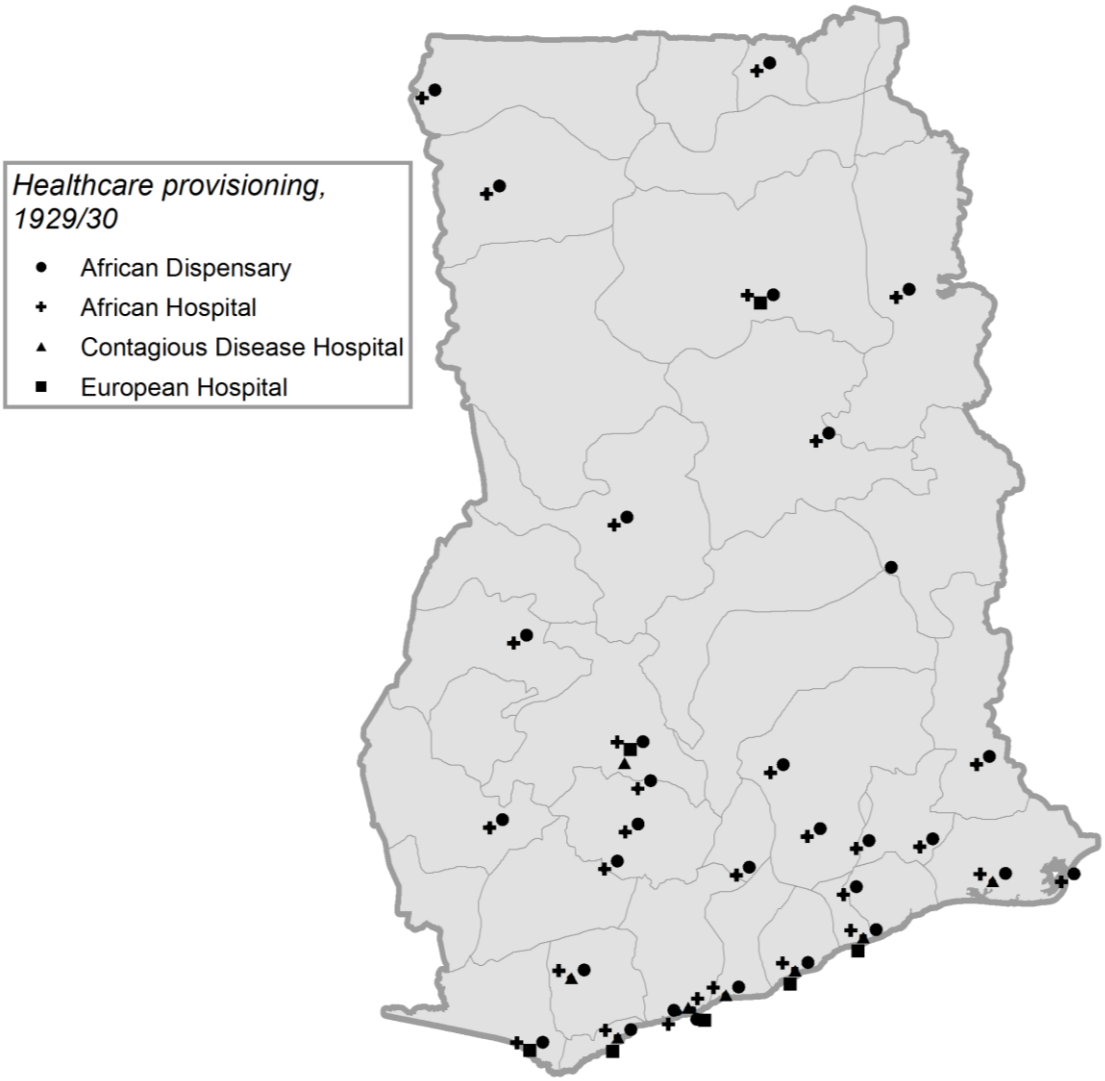
ports. By 1921, there were six Medical Officers in Asante, two of whom were assigned to industrial projects.[19] However, the Northern Territories received far less attention than either Asante or the Colony. Following his 1929 tour of the North, Governor Slater called the medical provision in the Territories 'nothing short of scandal', going on to explain that;

> 'There is only one hospital worth the name, viz at Tamale. At Wa there is a so-called hospital full of people sleeping on the floor, but the building is an ancient ramshackle one badly situated next to the noisy centre of town … at Lawra … a totally illiterate but faithful old retainer … attends regularly every morning with lint to give a little elementary aid to persons suffering from sores etc. This is the sum total of the hospital facilities in a district with nearly 100,000 inhabitants, for at Tumu there is nothing.'[20]

Although Slater ordered immediate improvements, and medical services did begin to expand throughout the North, the North/South disparity in healthcare provision was formed during colonial government [Map 4.1] but endured well into independence. Extant Northern hospitals were available but were also habitually understaffed, as the country's few doctors gravitated towards the profitable urban centres of the South. Large towns only received the attention of an itinerant Medical Officer, if at all, and there were rarely more than four doctors throughout the Northern Territories. In 1951, there was one doctor for every 120,000 people in the Northern Territories, 1:27,000 in Asante and 1:24,000 in the coastal colony. The population-bed ratio was similarly skewed at 1:1,500 in Ashanti and 1:4,300 for the North.[21]

[19] James W. Brown, 'Increased Intercommunication and Epidemic Disease in Early Colonial Ashanti', in *Disease in African History: An Introductory Survey and Case Studies*, ed. by K. David Patterson and Gerald W. Hartwig (Durham, N.C.: Duke University Press, 1978), pp. 180–207 (pp. 186–87).
[20] Quoted in, Addae, p. 72.
[21] Gold Coast Government, *Report of the Commission of Enquiry into the Health Needs of the Gold Coast* (Accra, 1952), pp. 5, 31.

Map 4.1: Healthcare provisioning, 1929/30
Source: *MDAR*, 1929/30; Based on Alexander Moradi, Gareth Austin and Joerg Baten, *Heights and Development in a Cash-Crop Colony: Living Standards in Ghana, 1870-1980* (ERSA, 2013), pp. 40-1.



Similar disparities were seen in the provision of nutrition and child welfare services. In the early 1930s, child welfare clinics operated in every major conurbation in Asante and the Colony yet, in 1932, a telegram from Christianborg Castle to Tamale read:

> 'Old power house Tamale may be used for Infant Welfare work but no expenditure on alteration or improvement should be incurred.'[22]

These were years of retrenchment which threatened the colony's child welfare project in general. Still, it was hesitant and inequitable spending which left an enduring spatial legacy which devalued infant health in the North while also allowing for fundamental misunderstandings of Northern nutrition. Indeed, by 1955, there were 15 child welfare clinics in Kumasi alone, and 33 in the rest of Asante.[23] The year before, the Medical Department reported that, apart from Bimbilla Health centre, 'in the Northern Territories there was only a hospital clinic service' providing child welfare services.[24] Attendances at these two centres amounted to 7,040, compared to Asante's 49,787.[25]

The unbalanced distribution of health infrastructure largely resulted from the absence of indigenous capital formation in the North. Unlike Asante, the North housed little exploitable agriculture and few valuable mineral deposits. Unlike the coast, the North was not well positioned to act as a centre of colonial commerce. When the Northern Territories were appended to the Gold Coast, they were never expected to turn a profit but were instead annexed in order to defend against inroads from the French or German Empires. In fact, between 1892 and 1906, the administration of Protectorate of the Northern Territories ended in a deficit of £112,125, despite £318,307 in imperial grants-in-aid of their administration.[26]

Given the expense of simply administering the North, the government was loathe to provide any additional health or social care, especially considering the scale of the North's disease burden, much of which was tied to the unique demands of life in the Territories.[27] For instance, epidemics of cerebrospinal meningitis were wont to occur at the beginning of each year when harmattan winds drove residents into housing which

---

[22] PRAAD/A/CSO/11/6/10, 'IWC Tamale, 1932', Acting Colonial Secretary, Accra, to Acting Chief Commissioner, Northern Territories, Tamale, 22/11/1932.
[23] *MDAR*, 1955, p. 49.
[24] *MDAR*, 1954, p. 83.
[25] *MDAR*, 1954, p. 143.
[26] R. Bagulo Bening, 'The Evolution of the Administrative Boundaries of Northern Ghana, 1898-1965' (unpublished PhD, University of London, 1971), p. 115.
[27] Jeff D. Grischow, *Globalisation, Development and Disease in Colonial Northern Ghana, 1906-1960*, WOPAG - Working Paper on Ghana: Historical and Contemporary Studies (Helskini: Institute of Asian and African Studies, University of Helsinki, 2006), pp. 1–31.

was often overcrowded and poorly ventilated.[28] Onchocerciasis, or river blindness, was also particularly prevalent in the North, draining labour from communities with already marginal levels of productive human capital.[29] By the 1950s, perhaps three percent of the North's total population was clinically blind. However, it was only following a 1951 publication which showed onchocerciasis to be endemic amongst riverside populations along the *lower* (i.e. Southern) Volta that the nature of river blindness in the North was also addressed.[30] As with many of the North's other diseases, blindness went 'unnoticed, or if noticed, disregarded.'[31] Louse-borne relapsing fever and trypanosomiasis also appeared as epidemics particular to the North throughout the colonial period. Alongside epidemic illness, less dramatic, endemic concerns took an even higher toll on the health of Northern populations.[32] In general if dispassionate terms B.B. Waddy, a Medical Officer in the north-west, explained the area had 'the misfortune to be a hyperendemic focus of yaws and onchocerciasis, and a hypersusceptible epidemic focus of sleeping sickness and cerebro-spinal meningitis,' in addition to 'the usual holoendemic malaria and some lively foci of schitosomiasis.'[33]

Generally, health and nutrition in the Southern colony was considerably better than that seen in the Northern Territories. In the late 1930s, Purcell calculated that as many as 27 percent of the children born in the savannah would die within their first year. In the forest, infant mortality was estimated at around 10 percent.[34] The 1948 census found similar if less extreme variations in child survival.[35] With regards to nutrition, schoolchildren in 1940s Accra were markedly taller and heavier than children in Northern schools nearly a decade later.[36] However, the breakdown of microenvironments through improving transport links and increased trade did cause the

[28] David Scott, *Epidemic Disease in Ghana 1901-1960* (London: Oxford University Press, 1965), pp. 103–10.
[29] B.B. Waddy, 'Organization and Work of the Gold Coast Medical Field Units', *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 50.4 (1956), 313–43 (pp. 328–31).
[30] M.H. Hughes and P.F. Daly, 'Onchocerciasis in the Southern Gold Coast', *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 45.2 (1951), 243–52 (pp. 251–52); K. David Patterson, 'River Blindness in Northern Ghana', in *Disease in African History: An Introductory Survey and Case Studies*, ed. by K. David Patterson and Gerald W. Hartwig (Durham, N.C.: Duke University Press, 1978), pp. 88–117 (p. 88).
[31] Patterson, 'River Blindness', pp. 109–10.
[32] Patterson, *Health*, p. 101.
[33] B.B. Waddy, 'A District Medical Officer in North-West Ghana', in *Health in Tropical Africa During the Colonial Period*, ed. by E.E. Sabben-Clarke, D.J. Bradley, and K. Kirkwood (Oxford: Clarendon Press, 1980), pp. 159–65 (p. 159).
[34] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 12, 112.
[35] Gold Coast Government, *Census of Population 1948, Report and Tables* (Accra: Government Printer, 1950).
[36] Compare MDAR, 1948, p. 16 with B.B. Waddy, 'Heights and Weights of Children in the Northern Territories of the Gold Coast', *Journal of Tropical Medicine and Hygiene*, 59.1 (1956), 1–4.

incidence of epidemic illness in the South to increase during the early twentieth century, although to a lesser extent that in the North (perhaps due to some partial immunity garnered by early interaction with Europeans).[37] There were a number of limited smallpox outbreaks, the ferocity of which was eroded by increasingly widespread vaccinations, but the real exception is the 1918 epidemic of Spanish influenza, which caused a major loss of life throughout the South.

The influenza epidemic also provides a useful example of the politics of healthcare provisioning in the Gold Coast. As Patterson has explained, many Africans were highly critical of the performance of the Medical Department during 1918. In Keta, one resident 'publicly accused the government of callousness; others were bitter about the shortage of physicians. The government was denounced for its failure to train African doctors, its lack of interest in the health of non-white populations, and discriminatory practices which protected a "trade union" of British physicians.'[38] One District Commissioner, seeking to blunt African accusations of favouritism, was left to explain that in Accra a higher proportion of sick Europeans died (8 out of 77, or 10.4 percent) than inmates of the capital's jails (18 out of 220, or 8.2 percent).[39] The influenza epidemic received such attention from the administration largely because it actually affected the Southern colony. Northern epidemics, with a far greater combined effect than the influenza crisis, continued relatively unabated – even the influenza death rate was higher in the North than elsewhere in the Gold Coast.[40] However, in the North, ill-health rarely intersected with political dissent. Instead, in the north-western Lawra district, where the British appointed and propped up a system of ruling chiefs which often exploited their subjects apparently to the point of 'slavery', the population sought political, spiritual *and* medical protection from the local missions, the only visible form of white-colonial authority.[41] In the 1940s the colonial government finally attempted to address health in the north-west, but only managed to do so with mission help.[42]

The Southern response to the 1918 epidemic was facilitated by a form of civil society apparent in the South but largely absent in the Northern Territories. A more obvious

[37] Brown; Komla Tsey and Stephanie D. Short, 'From Headloading to the Iron Horse: The Unequal Health Consequences of Railway Construction and Expansion in the Gold Coast, 1898–1929', *Social Science & Medicine*, 40.5 (1995), 613–21.
[38] K. David Patterson, 'The Influenza Epidemic of 1918–19 in the Gold Coast', *Journal of African History*, 24.04 (1983), 485–502 (p. 492).
[39] Patterson, 'Influenza', p. 499.
[40] Patterson, 'Influenza', p. 502.
[41] Sean Hawkins, 'To Pray or Not To Pray: Politics, Medicine, and Conversion among the LoDagaa of Northern Ghana, 1929-1939', *Canadian Journal of African Studies*, 31.1 (1997), 50–85.
[42] Waddy, 'North-West', p. 180; Patterson, *Health*, p. 4.

example of this might be the cocoa 'hold ups' of the 1930s where, in a longer protest against low prices, farmers refused to sell to the expatriate firms that held a monopoly over cocoa buying.[43] Mahmood Mamdani has explained that indirect rule, or 'decentralized despotism,' used customary law and land tenure to maintain the peasantry as 'subjects' answerable to 'custom' rather than as 'citizens' with inalienable 'rights.' Across Africa, colonial governments refigured tradition and community into modes of domination which would facilitate the expansion of extractive economics.[44] However, in the cocoa belt, in mining towns and in coastal areas, class formation and the growth of civil society undermined that mode of domination, threatening the profitability of the whole imperial exercise. Engineered development in the North sought to avoid such pitfalls and, instead, 'responded to the threat of civil society by designing development projects with an eye towards preserving African community.'[45] For instance, in 1950 the Gonja Development Scheme was given its mandate to redevelop 30,000 acres of marginal land for the semi-mechanised, commercial production of groundnuts. However, this was to be realised through the planned resettlement of tens of thousands of 'Frafra' peasants from the overpopulated Zuarungu District, preserving 'tribal groups' and community order.[46] The Gonja scheme went into liquidation in 1957 but it was perhaps the grandest example of the sort of community-based development which, in 1926, Guggisberg envisioned as a 'bulwark' against the 'disintegrating waves of western civilisation.'[47]

As part of the subjugation of Northern civil society, the North was starved of education and denied the formation of the broad-based, politically expedient educated class which had been in development throughout the Southern colony since the end of the nineteenth century.[48] In 1914, C.H. Armitage, now the Chief Commissioner of the

[43] Sam Rhodie, 'The Gold Coast Cocoa Hold-up of 1930-31', *Transactions of the Historical Society of Ghana*, 9 (1968), 105–18; Rod Alence, 'The 1937-1938 Gold Coast Cocoa Crisis: The Political Economy of Commercial Stalemate', *African Economic History*, 1990, 77–104.

[44] Mahmood Mamdani, *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism* (Princeton, N.J.: Princeton University Press, 1996), pp. 22, 286–87.

[45] Jeff D. Grischow, 'Corruptions of Development in the Countryside of the Northern Territories of the Gold Coast, 1927–57', *The Journal of Peasant Studies*, 26.1 (1998), 139–58 (p. 155).

[46] Grischow, 'Corruptions', pp. 150–53; Describing 'Frafras' as one group is a misnomer, the term actually embraces three or four distinct socio-linguistic groups - Gurenshi (inculuding Bosi), Nabdams and Tallensi - see Meyer Fortes, *The Dynamics of Clanship among the Tallensi: Being the First Part of an Analysis of the Social Structure of a Trans-Volta Tribe* (Oxford: Oxford University Press, 1945); Meyer Fortes, *The Web of Kinship among the Tallensi: The Second Part of an Analysis of the Social Structure of a Trans-Volta Tribe* (Oxford: Oxford University Press, 1949).

[47] Frederick Gordon Guggisberg, *The Gold Coast: A Review of the Events of 1920-1926 and the Prospects of 1927-1928* (Accra: Government Printer, 1927), pp. 23–24; this is the main argument made by Grischow, most extensively here, Jeff D. Grischow, *Shaping Tradition: Civil Society, Community and Development in Colonial Northern Ghana, 1899-1957* (Leiden: Brill, 2006).

[48] The history of nationalism and emancipatory politics in the Southern Gold Coast can be found in, Jean Allman, *The Quills of the Porcupine: Asante Nationalism in an Emergent Ghana* (Madison, WI: University

Northern Territories, requested funding for a number of local schools across the North, arguing that;

> 'With the Colony enjoying, in addition to the Education Department, the education services of the Church Mission Society, the Roman Catholic, Wesleyan, Basel and Bremen Missions … a few crumbs from this feast of instruction might well be spared for the children of this Dependency.'[49]

'Crumbs', however, proved to be an apt description and, throughout the early colonial period, only a handful of schools were haltingly established across the Territories.[50] Educational attainment was limited into the 1940s too and, in 1925, Guggisberg explained to the governors of the school in Wa that, after Standard VII, 'the strictest care should be taken not to promote any but a very exceptional boy to a higher standard.'[51] Those missions which did attempt to educate Northern children found a hostile reception since, according to Bening, they were 'likely to disrupt the cherished political tranquillity of the Northern Territories.'[52] Education also threatened to undermine the value of Northern labour. As one District Commissioner explained, 'in the near future there is a danger of the Protectorate being overrun by an excess of half-educated natives without a means of livelihood as they would consider manual labour beneath their dignity.'[53] Due in large part to such reservations, in 1925 there were only 356 boys and 21 girls in Northern schools, making up just 1.3 and 0.4 percent of the colony's schoolchildren respective of gender. By 1954, the figures had grown significantly, with 8,011 boys and 2,140 girls in primary education in Northern schools, yet this still equated to just 2.9 and 1.6 percent of primary enrolment across the colony. Underrepresentation was also seen at the higher levels, the first university graduate of Northern extraction passed out from a British university in 1953. The third Northern graduate, and the first to actually graduate in Ghana, only came in 1960, three years after independence.[54]

The general absence of education infrastructure combined with the marginal nature of the savannah subsistence economy to restrain the development of Northern education. A thirteen-year-old in the cash economy could perhaps increase cash income by a third or

---

of Wisconsin Press, 1993); Richard Rathbone, *Nkrumah and the Chiefs: The Politics of Chieftaincy in Ghana, 1951-1960* (Oxford: James Currey, 1999); For the early history of education see, Philip Foster, *Education and Social Change in Ghana* (London: Routledge & Kegan Paul, 1965).

[49] Quoted in, R. Bagulo Bening, *A History of Education in Northern Ghana, 1907-1976* (Accra: Ghana Universities Press, 1990), pp. 8–9.

[50] Bening, 'Evolution', p. 228.

[51] Quoted in, Bening, *Education*, p. 51.

[52] Bening, 'Evolution', pp. 232–33.

[53] District Commissioner of Wa, 1922, quoted in, Bening, *Education*, p. 49.

[54] Bening, 'Evolution', p. 233.

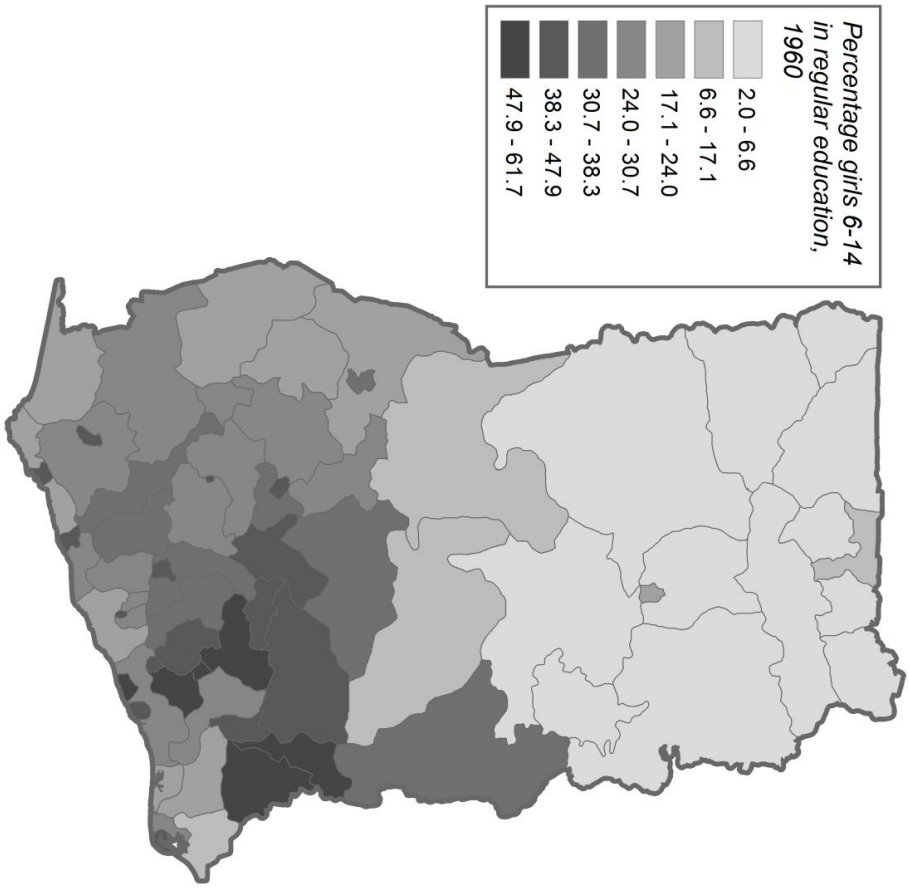
undertake labour to the same value. Educative childhoods were an expensive proposition which delayed children's transformation into productive assets.[55] Although competition for white collar work was intense and unemployment was a problem for the literate and illiterate alike, education was starting to become the surest route into influence and affluence in the South. In the North, however, productive human capital related more directly to family survival and any loss of child labour was felt much more acutely. Indeed, in the 1960s, Caldwell found that nearly half of all Northern respondents claimed that children aged 5-9 years were 'earning their keep.' Between 10 and 14 years 74 percent of children were considered productive members of the household. By contrast, in the region made up by Ashanti and Brong-Ahafo only 17 and 56 percent of respondents respectively considered their 5-9 year olds and 10-14 year olds productive.[56] The patrilocal nature of Northern marriage devalued expensive investments in female children in particular and, even into independence, girls were underrepresented in Northern schools in particular [Map 4.2]. Recalling the 1930s, Yvonne Fox explained that;

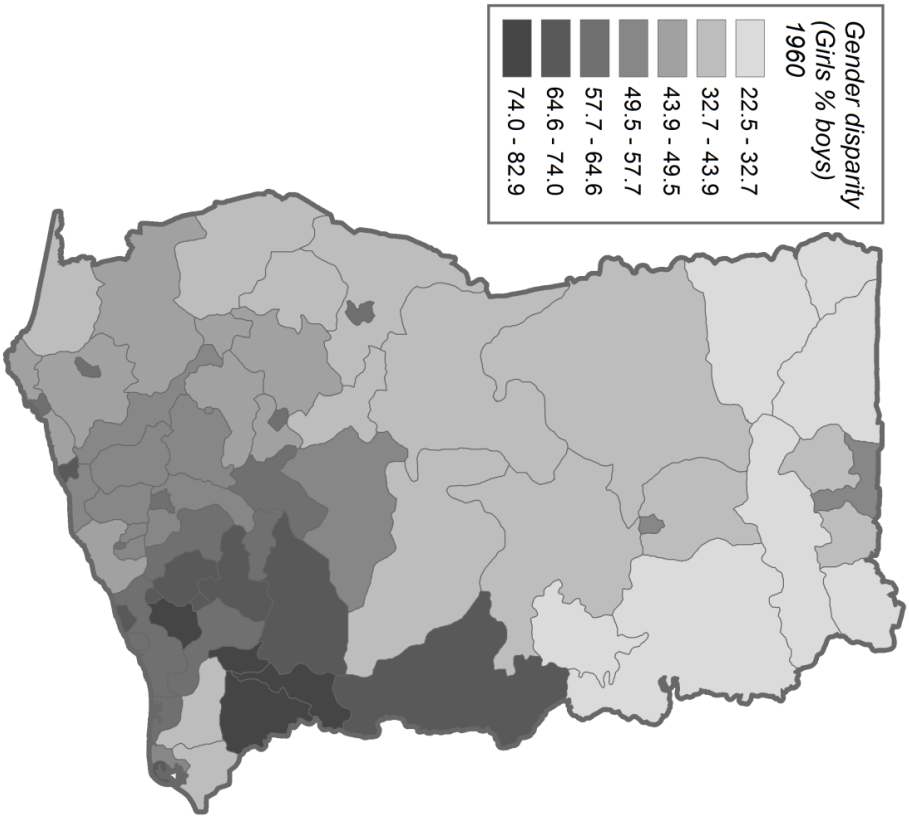
> 'Female education was none too popular. When parents sent their girls to school, they thought they should receive a payment or dowry of cows to compensate them for the loss of their daughters' services … The chief of Sapelliga who had sent a daughter to school told R. that, before sending any other girl, he was waiting to see how this one turned out.'[57]

The health advantage engendered by female education was especially absent from the North, the lack of infrastructure and the socioeconomic environment of the savannah acting in conjunction to constrict education in general and female education in particular.

[55] Jack Lord, 'Child Labor in the Gold Coast: The Economics of Work, Education, and the Family in Late-Colonial African Childhoods, C. 1940-57', *The Journal of the History of Childhood and Youth*, 4.1 (2011), 88–115 (p. 104).
[56] John C. Caldwell, 'Fertility Attitudes in Three Economically Contrasting Rural Regions of Ghana', *Economic Development and Cultural Change*, 15.2 (1967), 217–38 (p. 227).
[57] RH/MSS.Afr.S.2003, Fox, 'Memoirs.'

Map 4.2: Gender disparities in education, 1960
Source: Ghana Government, *1960 Population Census of Ghana* (Accra: Census Office, 1962); Enumeration areas taken from Bening, *Administrative areas*.





At the community level, the general dearth of education translated into widespread and disproportionate levels of illiteracy and a corresponding absence of political franchise.[58] At independence, this meant that the Convention People's Party (CPP) had to struggle to integrate Ghana with a recalcitrant hinterland disconnected from the rest of the emerging nation. Long denied purchase in the colony's politics, and wary of an independent political system 'which might result in the domination of the people of the north by those of the south', Northern voters turned out poorly for the CPP in the 1954 election.[59] Northern politicians feared that colonial retreat would simply mean the growth of 'black imperialism from the South' and actively fought for the continuation of British protection until levels of development – specifically in the form of infrastructure and educational standards – were broadly equitable. Eventually instead arguing for a federal Ghana, the Northern Peoples' Party (NPP) became the first in a tradition of parties espousing a monolithic Northern political voice, preferring 'being poor or living in poor conditions under their own government to feeling neglected under a rich government.'[60]

By the 1950s, as independence loomed large for the Gold Coast, the state of health and nutrition across the country had, probably, never been better. Epidemic diseases were successfully countered and nutritional status improved quickly. Children born in the later colonial period significantly outgrew their parents who had, in turn, outgrown their parents before them.[61] International recognition of nutritional science led to a greater recognition of the health effects of diet, and educationalists in the colony were taking notice too.[62] More and more girls were going to school and earning an education which had begun to include scientific theories of health and nutrition. By 1954, over 130,000 girls were enrolled in primary education, an increase of more than one thousand percent

[58] PRAAD/Tamale (T)/NRG/8/9/58, Mass Education General, 1964-1975, Report entitled 'Mass Literacy Campaign in Ghana: A Detailed Plan of Action', by Ministry of Social Welfare, 1965. See also, Hawkins, *Writing*; Jack Goody, 'Rice-burning and the Green Revolution in Northern Ghana', *The Journal of Development Studies*, 16.2 (1980), 136–55.

[59] Northern Territories Council member J.A. Braimah, 1951. Quoted in, Paul André Ladouceur, *Chiefs and Politicians: The Politics of Regionalism in Northern Ghana* (London: Longman, 1979), p. 94.

[60] PRAAD/A/ADM/5/3/99, Report of the Select Committee on Federal System of Government and Second Chamber for the Gold Coast, 1955. This is, of course, overly simplistic. See, for instance, Carola Lentz, '"The Time When Politics Came": Ghana's Decolonisation From the Perspective of a Rural Periphery', *Journal of Contemporary African Studies*, 20.2 (2002), 245–74.

[61] Alexander Moradi, 'Confronting Colonial Legacies—lessons from Human Development in Ghana and Kenya, 1880–2000', *Journal of International Development*, 20.8 (2008), 1107–1121 (pp. 1113–15); Alexander Moradi, Gareth Austin, and Joerg Baten, *Heights and Development in a Cash-Crop Colony: Living Standards in Ghana, 1870-1980* (ERSA, 2013), p. 23.

[62] Gold Coast Government, *Gold Coast Nutrition and Cookery* (Edinburgh: Published for the Gold Coast Government by T. Nelson and Sons, 1953).

on the 1934 figure.[63] Many of these children could imbibe the now ubiquitous printed health education and diffuse its message amongst their neighbours and friends. All the while, the success of vaccination campaigns and falling mortality figures enamoured younger people with the benefits of modern medicine. In fact, hospital admissions increased by 235 percent between 1929 and 1955 as inpatient death rates almost halved. Over the same period, the number of outpatients seen rose by 74 percent.[64] However, the 'routes to low mortality' paved by these improvements were not evenly accessible across the emergent nation. Through underdeveloped infrastructure and the repression of indigenous class formation, the colonial development trajectory entrenched the social and ecological formation of Northern ill-health. Inequities in health, education and wellbeing are still very visible in modern Ghana and, although these disparities may have been born from the ecology and social epidemiology of the savannah's disease environment, their persistence was permitted by development agendas particular to colonial governance.

b. Nutrition as coercion: migration and food insecurity in the colonial economy

While it was rarely official strategy, the coercive potential of food deprivation was well understood by European military strategists. During the First World War, Germany's Eltzbacher Commission published its report, 'Die deutsche Volksernährung und der englische Aushungerungsplan' or 'the German people and the English plan to starve them.'[65] German alarm was not unfounded since, at least in the colonial world, the suppression of the food supply was an important tool in the suppression of indigenous resistance. Writing at the end of the nineteenth century, John Callwell's influential military textbook on the fighting of 'small wars' explained that when 'there is no king to conquer, no capital to seize, no organised army to overthrow … it is then that the regular troops are forced to resort to cattle lifting and village burning and the war assumes an aspect which may shock the humanitarian.'[66] In 1896, the South Africa Company destroyed grain stocks in Rhodesia in order to force the surrender of the rebellious

[63] Gold Coast Government, Education Department Annual Report [EDAR], 1934; 1954.
[64] *MDAR*, 1929; 1955.
[65] Mikulas Teich, 'Science and Food during the Great War: Britain and Germany', in *The Science and Culture of Nutrition, 1840-1940*, ed. by Harmke Kamminga and Andrew Cunningham (Amsterdam: Rodpoi, 1995), pp. 213–34.
[66] C.E. Callwell, *Small Wars: Their Principles and Practice* (London: HMSO, 1896), p. 40.

Ndebele.[67] During the following two decades, the colonial government in British-controlled Sudan curbed the independence of southern pastoralists through an 'administration by raids', the confiscation of cattle and the destruction of villages.[68] In the Gold Coast's Northern Territories, where British militarism was subdued relative to other parts of the continent, early efforts to bring the stateless, rebellious 'Frafra' to heel repeated these trends and military incursions left burned crops, razed villages and epidemic disease in their wake.[69] Even as late as 1955, as part of their brutal repression of the Mau Mau revolt, the colonial government in Kenya apparently allowed the growth of famine conditions in the ghettoised villages of Kikuyuland.[70] The mechanics of postcolonial famine has also been explained as a political construction. Both Alex de Waal and David Keen have described how, during the crisis in Darfur, food deprivation was manipulated by and to the advantage of powerful local actors.[71]

Food insecurity and endemic undernutrition should also be viewed in the same way – as a process which had artificial antagonisms as well as natural causes and which produced beneficiaries as readily as victims. Even if hunger in the Gold Coast was rarely engineered by the state, its persistence in the savannah certainly benefitted European concerns. Over the course of the colonial period, the Northern Territories began to look southwards, to Asante, the coast and to the export economy. Migrant labour became ever-more important in the gold and cocoa industries growing across the South, a trend which was, in part, a result of Northern food insecurity. As we have seen in both the Asante domestic economy and the spatial inequities of infrastructural development, capitalist development often eschews the social reproduction of a given community while simultaneously promoting its capacity to produce at a level beyond subsistence. Prior to the concerted development agendas of the later colonial period, these fundamental economic processes worked against the advancement of Northern subsistence and outmigration grew up at least in part to mitigate food insecurity at home.

As a result of this, successive colonial governments showed little interest in engaging with the structural causes of food insecurity, instead addressing its symptoms through the expansion of famine relief and the facilitation of migration. Although famine relief

[67] John Iliffe, *Famine in Zimbabwe, 1890-1960* (Gweru: Mambo Press, 1990), pp. 23–24.
[68] David Keen, *The Benefits of Famine: A Political Economy of Famine and Relief in Southwestern Sudan, 1983-1989* (Oxford: James Currey, 1994), pp. 28–29; Alex De Waal, *Famine Crimes: Politics and the Disaster Relief Industry in Africa* (Oxford: Currey, 1997), p. 27.
[69] Holger Weiss, 'Crop Failures, Food Shortages and Colonial Famine Relief Policies in the Northern Territories of the Gold Coast', *Ghana Studies*, 6 (2003), 5–58 (p. 22).
[70] Caroline Elkins, *Britain's Gulag: The Brutal End of Empire in Kenya* (London: Jonathan Cape, 2005), pp. 259–62.
[71] Keen; De Waal.

had been in place in the Anglo-Egyptian Sudan, Uganda, Tanganyika and Southern Rhodesia throughout the 1910s it was not until the 1930s that famine relief began in the Northern Territories, despite recurrent food shortages and an earlier general acknowledgement of structural shortfalls in food security. By 1933, every headman was required to send workers to a communal farm to expand reserves. Drought-resistant crops like cassava were promoted, as were locust-resistant root crops. Generally, though, these policies proved ineffective and most relief came in the form of trade embargos and food-for-work schemes.[72] In the late 1940s, Chief Commissioner W.H. Ingrams moved to reorient famine relief around a system of communal granaries and early warning systems. Although the compulsory requisition of grain was widely unpopular it was at least partially successful, with communal reserves and early warning systems averting serious famine in 1953-4 and again in 1958-9.[73]

However, even these concessions were hard won and administrators in the North had to exhort the central state for famine relief well into the 1940s. Following the furore brought about by Purcell's public discussion of Northern nutrition [see Chapter 1], the Commissioner of the Northern Territories, G.H. Gibbs, was left to wring food aid from the Colonial Secretary, explaining that it is 'impossible to divine now if the people I have referred to would starve if given no assistance later in the year, but I am sure that starvation is not the means test that the Government would wish to apply.'[74] Even though he was said to recognise that 'there was always a danger of serious food shortage' in the Northern Territories, the Gold Coast Governor, Alan Burns, was hesitant to undercut the forces of free trade in order to bolster subsistence in the savannah. According to Culwick, a Medical Officer reporting on African nutrition security for the Colonial Office, Burns 'had been greatly impressed by the improvement seen in villages receiving palm oil and was in favour of subsidising its transport from the south, but there were difficulties in doing so because sending it north on any scale would interfere with exports to the UK.'[75]

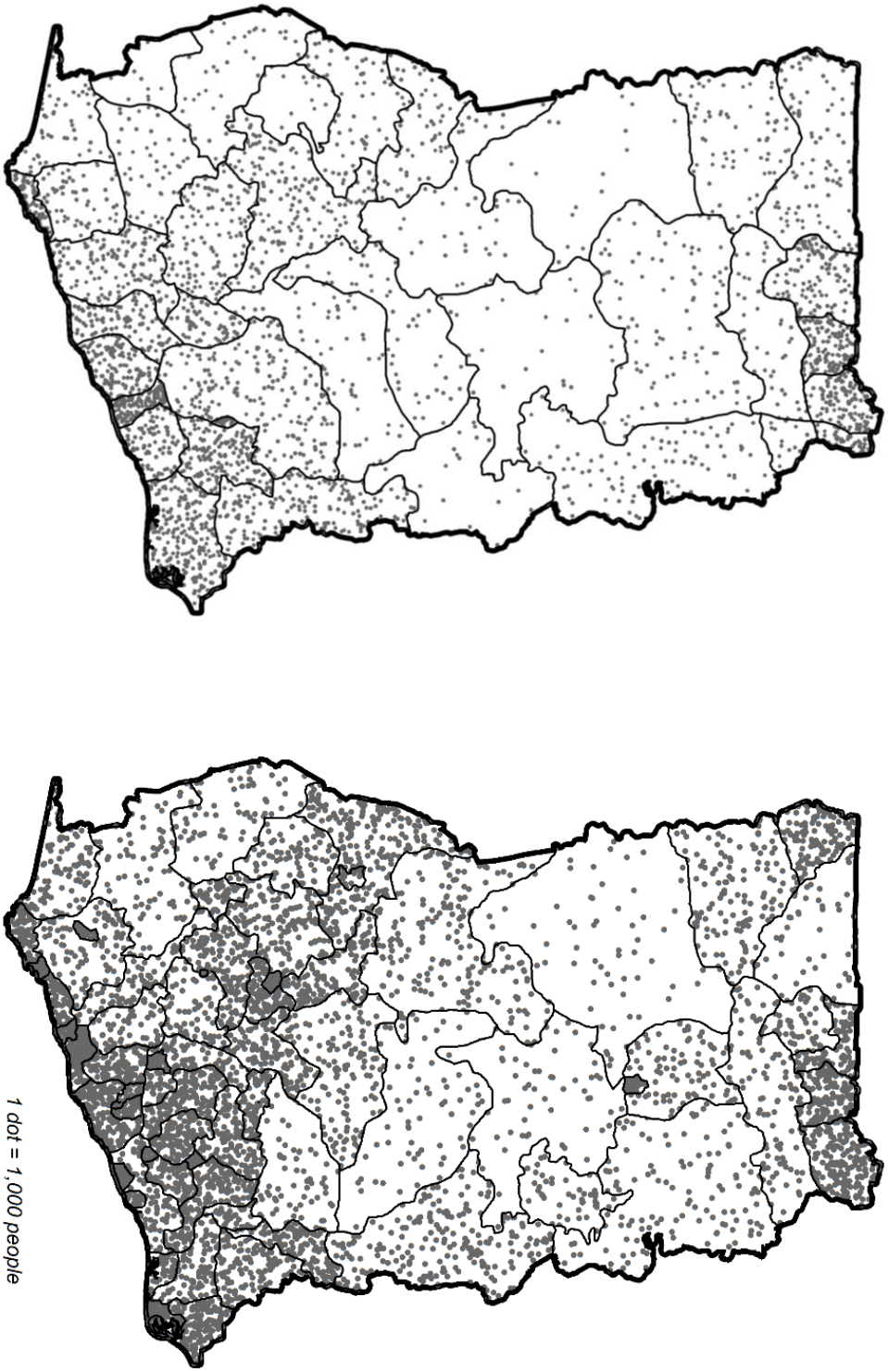
During the horrific nineteenth-century famines in Ireland and then India, colonial adherence to the doctrines of Smith, Mill and Malthus justified famine as an antidote to

[72] For a thorough history of colonial famine relief see, Weiss, pp. 40–48.
[73] Weiss, pp. 48–54.
[74] TNA/CO/859/115/3, Gold Coast: extracts from informal colonial medical reports, development plans and other papers [pertaining to nutrition], 1944-1946. G.H. Gibbs, Chief Commissioner N.T.s, to the Colonial Secretary, 2/2/1944.
[75] TNA/CO/859/115/3, Gold Coast: extracts from informal colonial medical reports, development plans and other papers [pertaining to nutrition], 1944-1946. S. Culwick, 'Note on discussion with Sir Alan Burns held on 15.5.1944', 16/5/1944; Palm oil was used to combat an apparently widespread deficiency of vitamin A, see *MDAR*, 1931-2, p. 33; *MDAR*, 1940, p. 1.

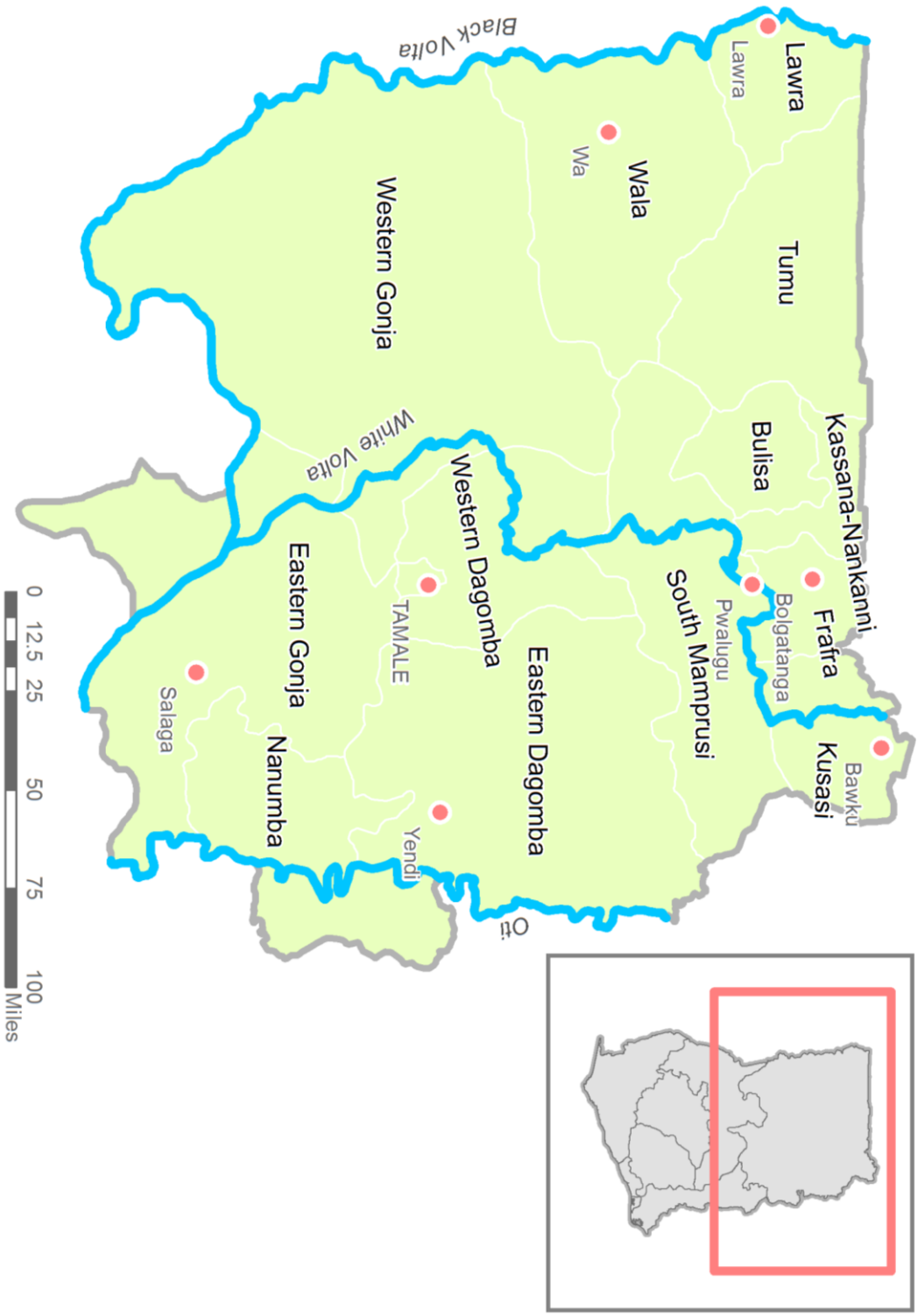
overpopulation and viewed any attempt to mitigate such crises through market manipulation as only accentuating the problem.[76] Such beliefs underpinned colonial food economies in Africa too, influencing famine relief and even non-crisis nutrition through similar if subtler mechanisms. In the Northern Territories, freedom of movement and the Southern economic advantage allowed valuable produce, in terms of both its economic and nutritional value, to be taken from the North and sold in markets where it would have a greater value. In the late 1930s, Purcell explained that 'there are the various species of antelope, and buffalo, but the amount of meat obtained from this sources is negligible in the more populous districts … Much of the bush meat shot in the north, in Gonja, is by Ashanti hunters who take the kills down to Kumasi for sale.'[77] Fish, too, were subject to 'a somewhat predatory trade' where 'the Black Volta is fished by coast fishermen from Ada who establish camps alongside the river throughout its course, even far up beyond Lawra, during the dry season. A very small proportion, if any, of these catches is sold locally.'[78] Although interregional trade had the potential to improve wellbeing in impoverished areas such as northern Mamprusi (where 'the export of fowls to Kumasi is the main source of income') it could also undermine the purchasing power of neighbouring people and drive valuable foodstuffs out of the North.[79]

[76] For Ireland see, Cormac Ó Gráda, *Black '47 and beyond: The Great Irish Famine in History, Economy, and Memory*, The Princeton Economic History of the Western World (Princeton, N.J: Princeton University Press, 1998); For India, Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (Taylor & Francis, 2002), pp. 28–33.
[77] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 47.
[78] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 47.
[79] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 57.

Map 4.3: Population densities, 1931 and 1960
Source: Gold Coast Government, *1931 Census*; Ghana Government, *1960 Census.* Enumeration areas from Bening, *Administrative areas*.



Map 4.4: Districts, rivers and settlements of note in the Northern Gold Coast, 1960
Source: Administrative areas derived from Bening, *Administrative areas*.



Driven by population growth, urbanisation and the cash-crop revolution, the colonial integration of Northern production with the expanding Southern food markets stimulated the southbound movement of staple foodstuffs too.[80] As early as the 1920s, the view of the North as a potential breadbasket of the Gold Coast meant that food insecurity increasingly related to market failure. Demand for food from buyers from Asante and from government departments in Tamale regularly outstripped supply, leading to rising prices which, throughout the 1920s, were complained about almost annually.[81] Although a small cohort of traders certainly benefitted from these development, the great mass of Northern subsistence farmers experienced broad declines in terms of purchasing power. This was a particular problem for perennially hungry, densely populated areas in the far north-east and north-west [Map 4.3] and served to accentuate a pattern where, in lean years, 'prices obtained for cattle sold under these circumstances are low and the prices that the Frafra have to pay for grain are extremely high.'[82] Although speculative trading pre-dated colonial rule, market integration under imperial administration encouraged the wider adoption (both spatially and quantitatively) of such practices, as well as the centralisation of even fairly small regional food economies. This was, in part, due to the fact that hunger in the Gold Coast's savannah was highly localised. In 1940, in the north-eastern community of Gawri, for instance, 'an eight week drought occurred which ruined the early millet. The poorer folk were chewing baobab fruit, a famine food in June; an abnormal misfortune; yet, at Zuarungu, eight miles to the south, there was a fair harvest.'[83] As a main locus of the country's food insecurity, the movement of food into and out of the north-east was recorded over the Pwalagu ferry over the White Volta – the most direct route into and out of the 'hungry area' [Map 4.4] – and, by the early 1950s, administrators could and did enact export bans on food crossing the river.[84] However, the growth of regional centres, such as Bolgatanga, alongside the emergence of local capitalists undermined any such actions, allowing instead for the accumulation of food away from hungry rural areas.[85] Throughout the 1950s, prices in Tamale were consistently higher than those in

[80] H.P. White, 'Internal Exchange of Staple Foods in the Gold Coast', *Economic Geography*, 32 (1956), 115–25 (p. 118).
[81] Weiss, pp. 10–11.
[82] NRG 8/2/209, 'Cattle in Frafra', report by Assistant District Commissioner N. O. Dobbs, 11 November 1950, p. 6.
[83] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 21.
[84] PRAAD/T/NRG/18/8/1, Diet and nutrition (1930-57), Acting Assistant Director of Agriculture, NTs, to Assistant Director of Medical Services, NTs, 'Standards of Nutrition in Farafara [sic.]', 15th April 1952.
[85] Keith Hart, 'Migrations and the Opportunity Structure: A Ghanaian Case Study', in *Modern Migrations in Western Africa*, ed. by Samir Amin (Oxford: Oxford University Press, 1974), pp. 321–39 (p. 334).

Bolgatanga which were, in turn, consistently higher than those in Bawku.[86] In times of shortage, as in 1958, this became a particular problem for anyone reliant on backcountry markets:

> 'The bulk of the purchasing power for food is with those in Trade and Industry and the Profession [sic.]. These groups generally reside in the towns; hence the effective demand in the towns is better, and the rising level of prices, which is reflected in the villages, is initiated from the urban markets … While the rural markets are short of supplies, the urban centres seem to be adequately supplied in the present time.'[87]

These patterns of peripheral food insecurity remained consistent throughout much of the twentieth century [see also Chapter 5].[88]

This, again, fits into Sen's entitlement theory, this time at the macroeconomic level. Using the example of the 1972-4 Wollo famine in Ethiopia, Sen suggests that there does not need to be any widespread decline in food production to induce famine in individual villages or starvation in individual households. Across Ethiopia perhaps only 5-7 percent of districts reported a fall in food availability against normal years, yet starvation and associated diseases brought the death toll to at least one-hundred thousand. Hunger was concentrated in Wollo because a regional decline in purchasing power undermined local ability to command food imports from elsewhere.[89] In areas already compromised by highly localised Malthusian shortcomings, like the Gold Coast's north-east, these mechanisms can operate even at the district level, where the marketing of any excess foodstuffs is readily purchased by individuals with a greater 'entitlement package.' As with crises defined by a widespread reduction in food availability, market failures affect the poor most readily. Those least able to modify their entitlement packages, through access to livestock, land or labour, are the most reliant on statist forms of famine relief and the most likely to starve when such relief is inadequate or unforthcoming. The growth of an integrated, colony-wide food market prompted these processes in lean years at the same time as food aid and facilitated outmigration in a colony-wide labour market provided new forms of relief.

---

[86] See, for instance, PRAAD/T/NRG/18/1/5, Monthly Food Production Reports, 1952-1957.

[87] PRAAD/T/NRG/8/11/66, Food Production Drive [Urban Allotments] Including Food Shortages, 1958-1962, S. La Anyane, 'Report on Food Shortage in Northern Ghana', 25/8/1958.

[88] Andrew Shepherd, 'Agrarian Change in Northern Ghana: Public Investment, Capitalist Farming and Famine', in *Rural Development in Tropical Africa*, ed. by Judith Heyer, Pepe Roberts, and Gavin Williams (London: Palgrave Macmillan, 1981), pp. 168–92 (p. 185).

[89] Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford University Press, 1981), pp. 86–112.

The deterioration of peripheral food markets, macroeconomic entitlement failures and a growing inability to remedy food insecurity through interaction with the local economy underwrote a colonial labour policy which expressly championed Northern proletarianisation through southward migration. In an 1899 statement, Governor F.M. Hodgson surmised the future of the Northern Territories, explaining:

> 'For the present I, therefore, cannot too strongly urge the employment of all available resources of the Government upon the development of the country to the South of Kintampo leaving the Northern Territories to be dealt with in future years … I would not at present spend upon the Northern Territories – upon in fact the hinterland of the Colony – a single penny more than is absolutely necessary for their suitable administration and the encouragement of the transit trade.'[90]

Into the 1920s, successive governors sought more for the 'Cinderella of the Gold Coast'. On his assumption of office in 1919, Guggisberg hoped 'within the next few years to see trains heavily loaded with groundnuts, shea-butter, corn, and cattle steaming south across the Volta.'[91] However development in the North had to fit within the demands of the market and, a year later, Guggisberg was to concede that 'every man of the Northern Territories is worth his weight in gold – for the mines, for private enterprise and for the development of those schemes the completion of which are necessary to secure progress and development.'[92] By 1937, the deleterious effects of emigration led the District Commissioner of Yendi to explain in a letter to Accra 'that the Protectorate [of the Northern Territories] has its own economic destiny to work out, and that that destiny is not solely to provide a reservoir of labour for the commerce and industry of the Colony and Ashanti.'[93] Progressively, over the course of the colonial period, labour migration became a more permanent transfer of people from North to South. By the time of the 1960 census, long-term rural migrants and expanding *zongo* communities in the city had left a million Northerners living across the South.[94]

However, it is wrong to assume that this process was actively arranged from within Christiansborg Castle. For instance, despite pressure from mining concerns, the government refused to implement more coercive models of labour recruitment, only

---

[90] TNA/CO/96/346, Gold Coast Despatches, 1899, F.M. Hodgson, Gold Coast Governor, to J. Chamberlain, Colonial Secretary, 'Gold Coast Confidential', 20/12/1899, pp. 1-4.
[91] Quoted in, Bening, 'Evolution', p. 142.
[92] TNA/CO/96/620, Original Correspondence, G, 1920, F.G. Guggisberg, 'Report on the Gold Coast Political Service', June 1920, p. 13.
[93] Quoted in, Bening, 'Evolution', pp. 222–23.
[94] Ghana Government, *1960 Population Census of Ghana* (Accra: Census Office, 1962); See also, John C. Caldwell, *African Rural-Urban Migration: The Movement to Ghana's Towns* (Canberra: Australian National University Press, 1969); Enid Schildkrout, *People of the Zongo: The Transformation of Ethnic Identities in Ghana* (Cambridge: Cambridge University Press, 1978).

actively assisting in the recruitment of Northern labour in 1906-9 and 1920-3.[95] Similarly, aside from monopolies over the purchase and export of cocoa, expatriate enterprises had very little sway over the actual means of production.[96] At times, when officers did attempt to press men into mining or public works, they found an absence of young men since many had already left for the South of their own accord.[97] As Guggisburg recognised in 1920, 'during the last two or three years, the NTs native has not rushed blindly into work in the South. He wants to know where he is going and what he is going to do. In fact, he has learnt to pick and choose, and to know his own value in the labour world.'[98] Cocoa farmers could usually afford to pay higher wages and government work was seen to be much more agreeable than mining – mainly since it did not take place underground – so labour diverted itself accordingly.

Rather than directly interfering with the processes of production, colonial governments concentrated on facilitating free trade. To these ends, the administration did provide infrastructure. Following Chief Commissioner Watherston's extensive road network plans which established Tamale as the centre of the North, by 1910 the North had a 'well developed road network, superior in extent and construction to the roads in the South.'[99] Roads were established cheaply – often through unpaid labour working at the behest of chiefs and in lieu of taxation – they facilitated the growth of marketplaces, the penetration of marketable goods and the flow of goods and people north and south. Yet, unlike schools, roads did not necessarily allow the formation of a subversive civil society. Unlike hospitals and healthcare, roads were not built in mind of civil dissent. Although more direct involvement in development accompanied the beginnings of indirect rule in the 1930s, the Gold Coast was largely built on the ideals of market-driven growth in an integrated colonial market.[100] It was these considered investments in the development of the Northern Territories which corralled the Northern poor into a state of 'dependency.' As Sutton has argued, 'the vision of the north as a supplier of labour conditioned colonial investment, or the lack of it, in Northern agriculture and especially infrastructure, so that little was done to create alternatives to labour migration when cash was

[95] Jeff Crisp, *The Story of an African Working Class: Ghanaian Miners Struggles, 1870-1980* (London: Zed Books, 1984); Roger G. Thomas, 'Forced Labour in British West Africa: The Case of the Northern Territories of the Gold Coast 1906–1927', *Journal of African History*, 14.01 (1973), 79–103.
[96] Polly Hill, *The Migrant Cocoa-Farmers of Southern Ghana: A Study in Rural Capitalism* (Cambridge: Cambridge University Press, 1963).
[97] Thomas, pp. 98–99.
[98] Minutes of interview between Guggisberg and the Secretary for Mines, 1920, quoted in, Thomas, p. 93.
[99] Peter R. Gould, *The Development of the Transportation Pattern in Ghana* (Evanston, Ill.: Department of Geography, Northwestern University, 1960), p. 48.
[100] For the history of indirect rule in the Northern Territories see, Grischow, *Shaping Tradition*.

demanded.'[101] As the colonial period progressed, demands for cash only increased. Market integration restrained the development of a more productive form of local capitalism at the same time as more regular interactions with both South and West drove relativist understandings of poverty and brought new signifiers of social status, such as cloth and clothing.[102] Forced by both a particular development agenda and the force of market forces, colonial capitalism provided the background against which the labour reservoir emerged. However, it was varied and often changing interactions with savannah survival which actively shaped the adoption of migration.

c. *Hunger, migration and the limits of environmental determinism*

The social shortcomings of capitalist development underlines the history of colonialism in the Gold Coast, and the history of hunger in the Northern Territories cannot be entirely divorced from the political economy of colonial rule. However, the explanatory power of externalist economic histories of poverty, which emphasise the top-down effects of policy, should be questioned in view of a savannah ecology which proscribes the ready escape from hunger. This was at least the thinking which prevailed amongst colonial staff. For instance, in the late 1950s, Waddy explained the cyclical and seasonal interactions of nutrition, disease and labour across the Savannah. His wearied account rings of a fatalism common to many Medical Officers posted across the North, and it is worth quoting at length;

> 'Throughout the dry season it is not possible to do any farming work, the ground is too hard. The heaviest work of the year takes place during the six weeks following the first rain, when the ground must be broken up for the season's planting. On the area of ground broken up and planted, depends the size of the harvest. At this period, last season's food stocks and therefore diet are at their lowest. The season's guinea worms emerge, sometimes almost immobilizing whole villages. Exacerbations of yaws "rheumatics" cripple many adults. In hyperendemic onchocerciasis areas, children lead out the blind men, perhaps 20 per cent of the adult males, to hoe pathetically. Mosquitoes breed afresh and this moment is the likeliest for adult malaria in a semi-immune community. Everything in fact conspires to make the community physically inefficient at this all-important time. If all the adverse factors operate together, famine results – as I have often seen. At best, farming effort is confined to the area round houses right up to the walls, where human excreta preserve some fertility in the

[101] Inez Sutton, 'Colonial Agricultural Policy: The Non-Development of the Northern Territories of the Gold Coast', *The International Journal of African Historical Studies*, 22.4 (1989), 637–69 (p. 638).
[102] Hawkins, *Writing*, pp. 83–86.

> overworked soil. There is never any excess food to sell, therefore there are no bought clothes or blankets for warmth. Inevitably, cold night air is abhorred and houses are unventilated. If any of the adverse factors cease to operate or are weakened, one improved harvest results in more food and energy next season. The cycle is broken and progress may be uninterrupted. This, too, can be seen in part of the Northern Territories where one may walk from a village five miles into the bush before leaving the last farm. In such a place crops are no longer grown close to the houses. With food to sell, the standard of living rises quite obviously: clothes, kerosene lamps and bicycles being the outward and visible signs.'[103]

Later, Waddy would go on to clarify the relationship between disease and hunger in the north-west, explaining that 'any further adverse factor, such as the death of one or two active men, an extra crop of guineaworms, or a raid on the farm by game animals, could and did bring villages to starvation.'[104]

Patterns of malnutrition fit into this formulation and can also be explained as a bio-ecological phenomenon, linked with cycles of infection and seasonal demands on labour and food supply. In preindustrial Europe, children born in the winter were more susceptible to respiratory infections, while children being weaned in the summer lost the protective influence of breastfeeding during the time of year when infective disease is more common.[105] In the Gambia, malnutrition peaked immediately following the annual rainy season epidemics of bacterial gastro-enteritis.[106] In the Northern Territories too, a common cause of the high infant mortality is given as *bwinne*, 'a form of enteritis, infantile diarrhoea, which prevails each year in epidemic forms.'[107] Hunter later explained that seasonal food shortages and labour demands [Table 4.1] in the densely populated Nangodi polity of north-eastern Ghana contributed to a cyclical pattern of food insecurity and malnutrition.[108] Even in the less pressured areas further south, the stresses of a single rainy season influenced nutritional status and the same mechanisms – disease, labour demands and declining food supplies – acted against infant health despite the richer food environment. In Dagomba, for instance, low population densities allowed for a more profitable form of shifting cultivation and longer periods of fallow, with at least

[103] Waddy, 'Organization', pp. 332–33.
[104] Waddy, 'North-West', p. 164.
[105] Marco Breschi and Massimo Livi Bacci, 'Month of Birth as a Factor in Children's Survival', in *Infant and Child Mortality in the Past*, ed. by Alain Bideau, Bertrand Desjardins, and Hećtor Peŕez Brignoli (Oxford: Oxford University Press, 1997), pp. 157–73 (pp. 161–62).
[106] D. R. Brewster and B. M. Greenwood, 'Seasonal Variation of Paediatric Diseases in The Gambia, West Africa', *Annals of Tropical Paediatrics*, 13.2 (1993), 133–46.
[107] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 13.
[108] John M. Hunter, 'Seasonal Hunger in a Part of the West African Savanna: A Survey of Bodyweights in Nangodi, North-East Ghana', *Transactions of the Institute of British Geographers*, 41 (1967), 167–85.

some land, labour and capital left over to grow cash-crops and diversify the local employment structure.[109] However, Moody still found that 'there is always undernutrition because the calories value of the diet is insufficient for the needs of the body. It is probably only in the months of September, October, November and December that a diet of adequate calorie value is achieved.'[110]

Although environmental frailties cannot be ignored, neo-Malthusian approaches to poverty should only be cautiously accepted by historians. By denying Africans any understanding of their own poverty or any agency over their own survival, neo-Malthusian approaches to hunger suffer some of the same shortcomings as dependency theory. Though reflective of external forces, Northern demography was also actively shaped by an entrenched understanding of the relationship between famine and family in the highly variable and quickly shifting environmental conditions seen across the savannah. Although death and disease were essentially unknowable, the survival of the family was known to rely on its ready modification in the face of constant threats and outmigration has to be fit into this pragmatic pattern of household manipulation.

[109] Compare, for instance, PRAAD/T/NRG/8/3/204, Economic Surveys and Reports, 1955-1960, D. Masters, 'Structure of the Economy of Tali and Woreboggo in Western Dagomba', c. 1955; with, PRAAD/T/NRG/8/3/204, Economic Surveys and Reports, 1955-1960, D. Masters, 'Janasia (Navrongo) and Zuarensa (Sandema) in the Navrongo District', c. 1955.

[110] C.O. Moody, 'Malnutrition in Children under Five Years of Age in the Dagomba Villages of Northern Ghana', *The Journal of the Royal Institute of Public Health and Hygiene*, 26 (1963), 224–41 (p. 225).

Table 4.1: Seasonal food supply and labour demands in Nangodi, c. 1960
Sources: Taken from Jérôme Destombes, 'From Long-Term Patterns of Seasonal Hunger to Changing Experiences of Everyday Poverty: Northeastern Ghana, C. 1930-2000', *The Journal of African History*, 47.02 (2006), 181–205 (p. 198). See also, J.M. Hunter, 'Seasonal Hunger in a Part of the West African Savanna: A Survey of Bodyweights in Nangodi, North-East Ghana', *Transactions of the Institute of British Geographers*, 41 (1967), 167–85 (p. 170).

Time of year	Average rainfall	Farming activity	Food supply	Bodyweight	Capacity for work
April – June	12 inches	Maximum physical activity: planting and weeding	Peak of hungry season: supplies exhausted or nearly exhausted	Minimum	Impaired
July – September	25 inches	Continuing physical activity: weeding and harvesting	Hungry season ends when harvesting commences	Increasing	Recovering
October – December	3 inches	End of harvesting: period of leisure, festivals and marriage	Season of relative plenty and granaries replenished	Maximum	Optimum
January – March	1 inch	Leisure, house building, crafts and hunting	Hungry season begins: diminishing food supplies	Decreasing	Deteriorating

Labourers entering into mine work, for instance, commonly began their journeys in poor health and Thomas even suggests that communities may have sent men producing a net deficit in terms of household food production.[111] In the early 1920s, death from hunger or thirst on the long road to or from the South necessitated the establishment of refuges in Kumasi in 1929 and Tamale in 1933.[112] By 1942, the Labour Department had established thirty-seven camps along the main migration routes.[113] Conditions at the end of the journey were not much better either. Poor nutrition, parasites and pre-existing diseases meant that, in 1923, death rates amongst migrant miners from the Northern Territories were around four times as high as the benchmark set by miners in the Transvaal. Out of the 711 Northern labourers recruited between October 1923 and February 1924 there were forty-three deaths, only three of which were due to accidents. Moreover, 317 of these men spent an average of thirty-one days each in the mine hospital.[114] For many, the march southwards was undertaken probably not because of the bright prospects at the end of the road, but because of the dire prospects at its start.

Although migration was generally voluntary it was still structured within pre-existing, family-based systems of social security. In this sense, we should question Iliffe's speculation that 'the weak household, bereft of able-bodied male labour, has probably been the most common source of poverty throughout Africa's recoverable history.'[115] Elsewhere, outmigration has had a positive effect on familial survival. During Ireland's Great Famine, mass migration probably saved a great many lives by readjusting the ratio between food supply and population.[116] If it was women primarily left behind, the households they headed were not necessarily hungry either. In Zambia, Moore and Vaughan found that cooperation in the distribution of food and labour across complex exchange networks made up for male absence in even decidedly poor households.[117] In another famous case-study, Tiffen et al show that outmigration from the densely populated Machakos area of eastern Kenya effectively mitigated the problems of soil

[111] Thomas, pp. 100–102.
[112] *MDAR*, 1929-30; 1933-4.
[113] 'Labour Problems of the Gold Coast Are Being Faced', *West African Review*, December 1942, 18.
[114] Thomas, pp. 100–102; See also, Raymond Dumett, 'Disease and Mortality among Gold Miners of Ghana: Colonial Government and Mining Company Attitudes and Policies, 1900–1938', *Social Science & Medicine*, 37.2 (1993), 213–32.
[115] John Iliffe, *The African Poor: A History* (Cambridge: Cambridge University Press, 1987), p. 7; A.I. Richards, *Land, Labour and Diet in Northern Rhodesia: An Economic Study of the Bemba Tribe* (London: Oxford University Press, 1939).
[116] Cormac Ó Gráda and Kevin H. O'Rourke, 'Migration as Disaster Relief: Lessons from the Great Irish Famine', *European Review of Economic History*, 1.01 (1997), 3–25.
[117] Henrietta L. Moore and Megan Vaughan, *Cutting down Trees: Gender, Nutrition, and Agricultural Change in the Northern Province of Zambia, 1890-1990*, Social History of Africa (London: James Currey, 1994).

desiccation and erosion. Located close to Nairobi, high levels of off-farm income could be readily earned in the burgeoning city and then invested in land improvements back home. Coinciding with high global coffee prices and low levels of taxation, productivity and living standards rapidly improved in the later colonial period.[118]

Positive interactions between migration and food security have historical precedents in West Africa too. As Philip Curtin has explained, food insecurity led communities to actively address the limitations of their environments. The pastoral Fulani, for instance, adapted to the climactic instability of their original home, the middle valley of the Senegal River, to drift across sub-Sahelian West Africa, eventually assuming the position of cattle keepers for sedentary farmers. Curtin's main point being that nutrition is a 'mediating element in man's relationship with his environment.'[119] This is a relationship embedded in the culture of the savannah, where one Gonja proverb advises;

> 'The tortoise says that where there is food, there he turns his neck and goes (to eat).'[120]

In fact, simply enabling migration may have provided citizens of the colonial North with a greater degree of agency over their own food security. According to Cardinal, 'several people, commenting on the famine early in 1919, said that had it not been for the white man's presence, which provided safety in travelling to more favoured parts, they would have had to sell their own offspring.'[121]

Neither climate nor ecology is particularly stable in the savannah, in fact, significant and largely unpredictable variations in rainfall are the norm.[122] In the same way that successful later-colonial famine relief systems relied upon early warnings regarding failed rains, facilitating outmigration worked to alleviate food insecurity by allowing a flexible and responsive means to modify household food security upon the recognition that a crop was likely to fail.[123] Of course, this is something which actual farmers are infinitely more able to deduce than any administrator. The first large-scale famine relief project, undertaken in 1931, proved to be a costly failure largely because of this. By the time imported that imported food relief reached Kumasi much of it had spoiled and, by the

[118] Mary Tiffen, Michael Mortimore, and Francis Gichuki, *More People, Less Erosion: Environmental Recovery in Kenya* (Chichester: Wiley, 1994).
[119] Philip D. Curtin, 'Nutrition in African History', in *Hunger and History: The Impact of Changing Food Production and Consumption Patterns on Society*, ed. by Robert I. Rotberg and Theodore K. Rabb (Cambridge: Cambridge University Press, 1985), pp. 173–84.
[120] C.S. Kponkpogori, C.J. Natomah, and O. Rytz, *Gonja Proverbs* (Legon: University of Ghana, 1966), p. 41.
[121] A.W. Cardinal, *The Natives of the Northern Territories of the Gold Coast: Their Customs, Religion and Folklore* (London: George Routledge & Sons, 1920), p. 74.
[122] Weiss, pp. 15–19.
[123] Weiss, pp. 48–54.

time it reached the North, there was no famine in any case. Such accounts prove the difficulties encountered in monitoring food availability and funnelling relief into the Territories, as well as the ability of the Northern poor to quickly adapt to approaching shortfalls in production.[124] Hunger in the savannah was rarely consistent but was, instead, dependent on highly localised conditions which could vary significantly from year to year. In view of this, Purcell found a symbiosis in the seasonal pattern of migration which saw 'the men leave after harvest in December [and] return for the April sowing; which suits everybody.'[125]

As a considered response to the realities of distinct spatial and temporal pressures, migration was especially valuable for the heavily populated and perennially hungry Kassana-Nankani, Frafra and Kusasi Districts which, together with Bulisa District, make up the 'hungry area' in the far north-east which is occasionally and inaccurately referred to as North Mamprusi [Map 4.4]. It was here that Purcell and other colonial officers focused their energies. Taking average consumption for a number of compounds in each area (ten in Zaurungu for instance) over the course of between seven and ten days, Purcell's data shows the degree to which basic consumption varied by locality, season and household wealth [Table 4.2].[126]

Hunger in Ghana's north-east is unique and its deep history is difficult to speak to. It seems likely that more viable communities operating under a tradition of shifting cultivation were sedenterised in the eighteenth or nineteenth centuries by warfare, slaving, disease and, latterly, vying European empires.[127] As the recently 'fossilised' populations grew in size, fallow periods were shortened and eventually abandoned in some areas with little compensatory improvement to farming practice. By the early 1900s, Cardinal noted that 'there is, comparatively speaking, very little uncultivated land, and that lies chiefly along the valleys of the larger rivers and is what is commonly called orchard bush.'[128] In this bush, 'everywhere one comes across ancient middens of which the origin is unknown and which are situated at a distance one from the other as are the dwelling places of the people today.'[129] Though the relationship between overpopulation and depopulation could not be entirely attributed to the colonial *causes célèbres* of

[124] PRAAD/A/CSO/8/1/12, 'Food supplies in the Northern Territories, 1930-31'
[125] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 27.
[126] For a much more thorough analysis of this data see Jérôme Destombes, 'Nutrition and Chronic Deprivation in the West African Savanna: North-Eastern Ghana, C. 1930-2000' (unpublished PhD, London School of Economics, 2001).
[127] William Allan, *The African Husbandman* (Edinburgh: Oliver & Boyd, 1967), p. 246.
[128] Cardinal, p. 1.
[129] Cardinal, p. 2.

trypanosomiasis or soil erosion, the cyclical nature of disease, death and depopulation was recognised by the first concerted investigations undertaken during the early 1940s.[130] By 1944, it was concluded that 'extinction has already overtaken 8 villages within ten miles of Kwapong, 5 within the last decade.'[131]

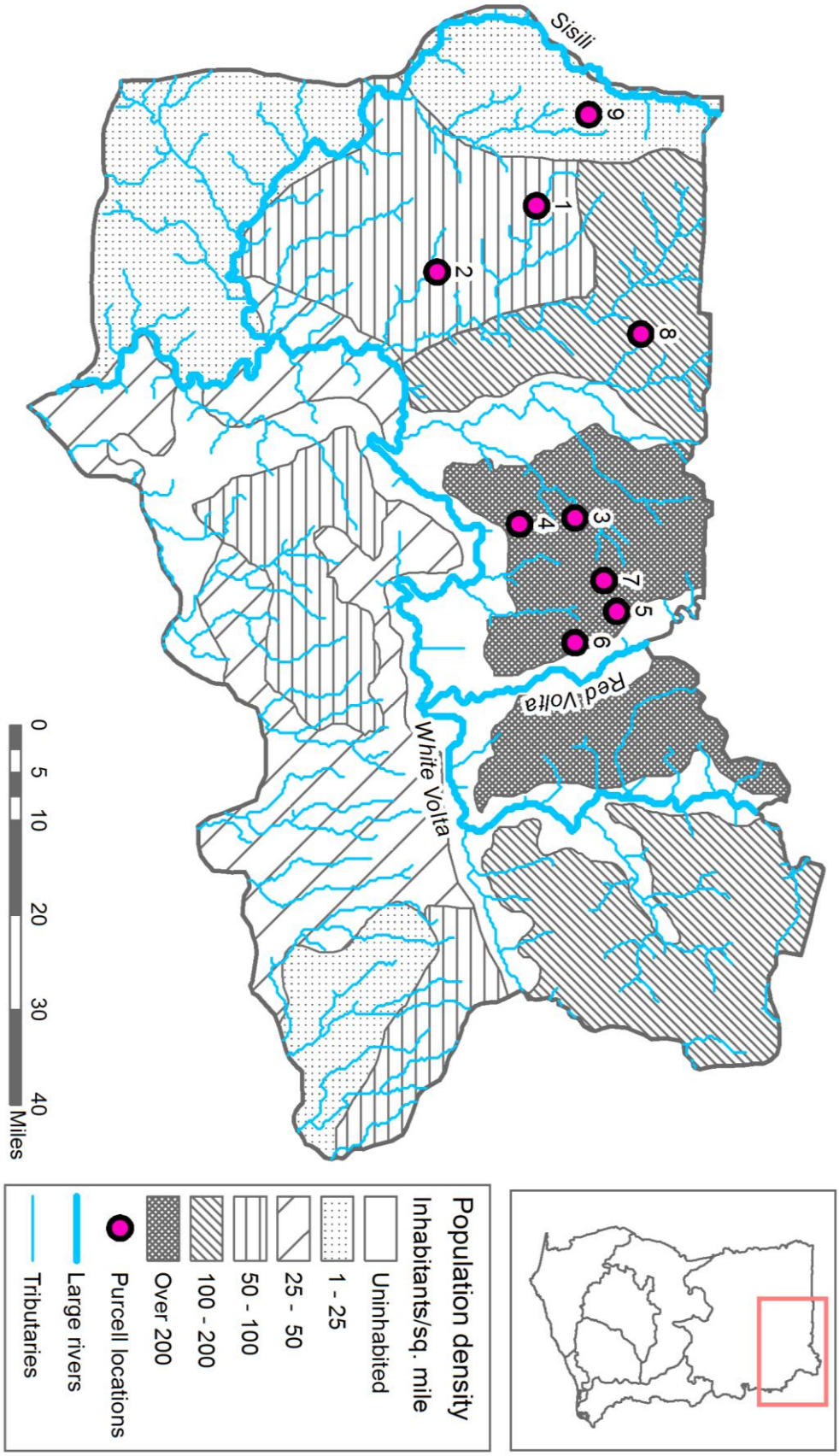
It was not until the 1960s that a plausible cause was forwarded. In a landmark investigation, John Hunter explained that a history of endemic onchocerciasis had long made life untenable in the river valleys and that communities were instead forced to concentrate on non-infected watersheds [Maps 4.5 and 4.6]. Traversed by a dense network of seasonal streams and larger tributaries of the White Volta, the Gold Coast's north-east provided a great deal of fast-flowing water for blackfly vectors of onchocerciasis to breed in. However, on higher ground, less fertile land and high population densities preceded soil erosion and a general decline in food security. Riverside populations suffered and starved under the demands of endemic blindness until they were partially restored by new waves of settlement, pushed towards the river by the hunger forming on the watersheds. Hunter suggests that this cyclical process of advance (driven by famine) and retreat (driven by disease) was evident in certain areas since at least the nineteenth century.[132]

[130] PRAAD/T/NRG/18/8/1, Diet and nutrition (1930-57), Report by C.W. Lynn, Senior Agricultural Superintendent, Department of Agriculture, 'Depopulation of Riverine areas in North Mamprusi: Report on a visit to Sekoti, 8th/9th November, 1942'; Report by C.W. Lynn, Senior Agricultural Superintendent, Department of Agriculture, 'Movements of population in North Mamprusi with particular reference to depopulation along the Red and White Volta Rivers where run north and south', undated, early 1940s.
[131] PRAAD/A/CSO/20/6/4, Northern Territories Welfare Committee, 1944-45, 'Agenda for conference of Northern Territories welfare committee meeting', 21/1/1944, pp. 4-5.
[132] John M. Hunter, 'River Blindness in Nangodi, Northern Ghana: A Hypothesis of Cyclical Advance and Retreat', *Geographical Review*, 56.3 (1966), 398–416 (pp. 410–16).

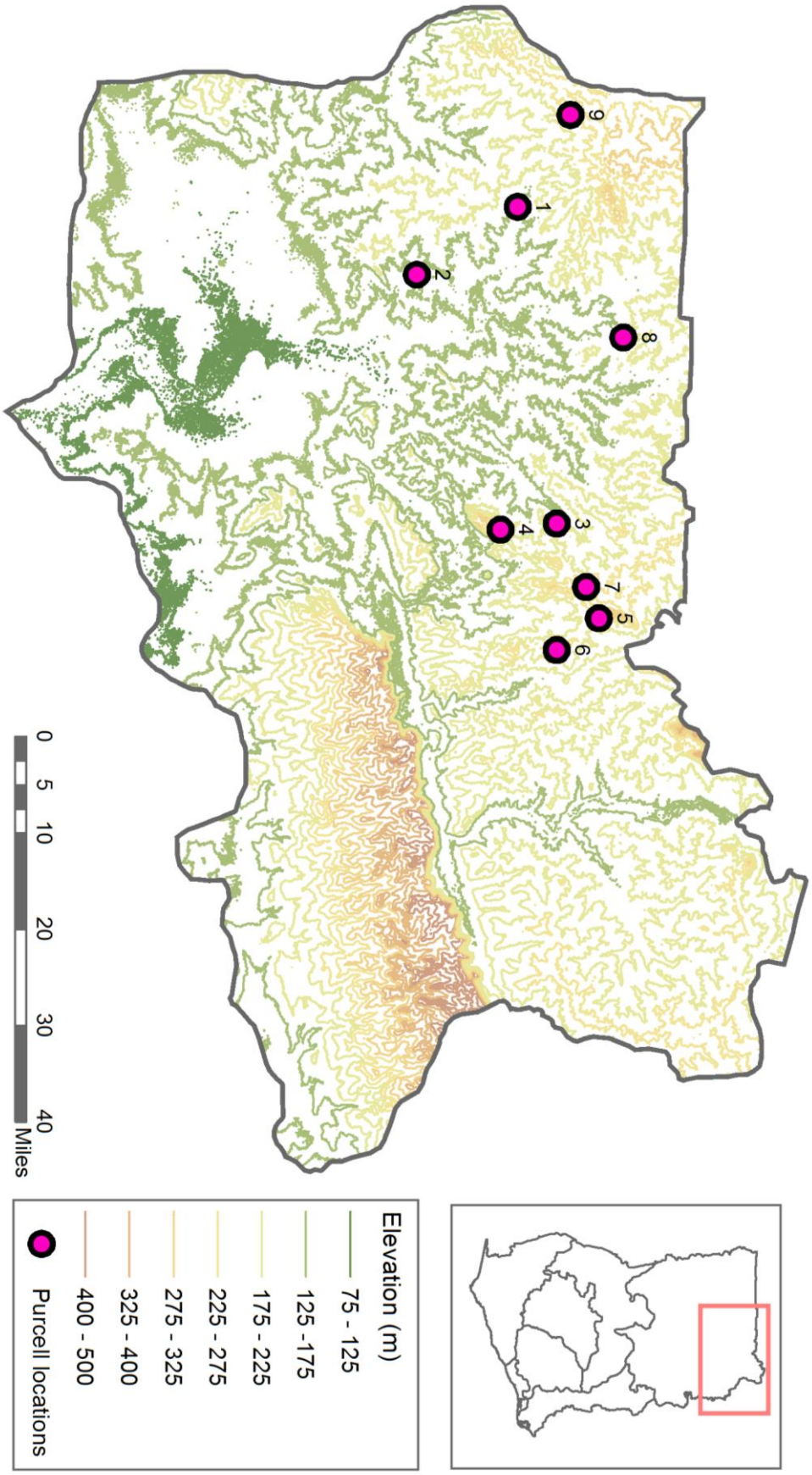
Table 4.2: Average daily calorie intakes for compounds in communities across the Northern Territories, 1940-1
Source: PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 71(f)
^Averages are in terms of consumption units which are weighted at 1.2 for adult men, 1 for adult women, 0.8 for male children and 0.6 for female children.
***These points are only rough estimates based on the centre of the recorded survey location.**
~Off map, in Upper West. See Map 4.4
[+]'It is unlikely that the averages are fairly representative of Chaana; the families surveyed were very poor.'

Location	Date	Lowest compound average^	Highest compound average^	Average across compounds^	Yearly average across compounds^	Inequality ratio (1 = absolute equality)	Point on Maps 4.5 and 4.6*
Lawra	Oct-40	788	1,099	923	2,064	0.72	~
	Dec-40	2,222	4,180	2,831		0.53	
	Mar-41	1,704	2,940	2,431		0.58	
Sandema	Sep-40	1,235	4,567	1,908	1,787	0.27	1
	Dec-40	1,400	3,500	2,105		0.40	
	Feb-41	1,025	1,717	1,348		0.60	
Chaana[+]	Sep-40	519	1,990	930	1,532	0.26	2
	Dec-40	908	2,177	1,351		0.42	
	Feb-41	709	[Unreadable]			-	
Zuarungu	Jul-40	1,165	2,408	1,597	1,419	0.48	3
	Nov-40	1,198	2,059	1,572		0.58	
	Dec-40	866	1,768	1,388		0.49	
	Feb-41	805	1,498	1,118		0.54	
Tongo	Sep-40	1,225	2,065	1,677	1,408	0.59	4
	Dec-40	1,155	2,060	1,546		0.56	
	Feb-41	674	1,671	1,001		0.40	
Nangodi	Oct-40	965	2,124	1,388	1,385	0.45	5
	Feb-41	906	2,054	1,382		0.44	
Sekote	Dec-40	854	1,969	1,484	1,346	0.43	6
	Feb-41	820	1,623	1,207		0.51	
Kokgo	Oct-40	875	2,036	1,436	1,306	0.43	7
	Dec-40	630	1,680	1,155		0.38	
Navrongo	Aug-40	1,085	1,939	1,415	1,221	0.56	8
	Dec-40	1,050	2,100	1,399		0.50	
	Jan-41	475	1,210	850		0.39	
Nakon	Sep-40	690	1,616	999	808	0.43	9
	Dec-40	485	1,717	1,193		0.28	
	Feb-41	230	649	327		0.35	

Map 4.5: Watercourses and population distribution in north-eastern Ghana, 1960
Source: T.E. Hilton, Ghana Population Atlas: The Distribution and Density of Population in the Gold Coast and Togoland under United Kingdom Trusteeship (Edinburgh: Thomas Nelson & Sons for the University of Ghana, 1960), p. 10. Purcell locations related to Table 4.2.



Map 4.6: Topography of north-eastern Ghana
Source: Topographic data drawn from United States Geological Survey (USGS) Shuttle Radar Topography Mission (SRTM) < http://www.opendem.info/download_contours.html> [accessed 9 May 2016]. Purcell locations related to Table 4.2.



As a locus of disease and demographic intrigue, the focus of numerous important ethnographies and a meeting point of British and French Empires, the cross-border economic history of this part of the West African savannah surely deserves to be written. However, what we do know about poverty and hunger here has been best described by Jérôme Destombes as a pattern of 'hungry watersheds' and 'famished valleys.' [133] Although we might question what could be considered an overly simplistic topographical metaphor, poverty and food insecurity certainly seem to have followed the contours of savannah geography. The depopulation of riverine and lowland areas most likely to harbour onchocerciasis and other waterborne disease vectors certainly seems to have had an important effect upon the nutritional health of the population. Removed from the social insurances and more dynamic marketplaces of the more populous areas and bearing the greatest disease burden, Purcell found Nakon [marker no. 9 on Maps 4.5 and 4.6], especially hungry. Sitting in a broad, shallow valley alongside the Sisili River, in Nakon Purcell saw 'several cases of extreme stunting' and an 'obvious correlation between the poor physique of the people and the prevalence of starvation.'[134] In the 1960s, one investigator estimated that child mortality in Nakon may have been around fifty percent.[135]

In Nakon Purcell found a community slowly dying. This was a process eminently more visible to those living around it and, as was the case with many aspects of ill-health, the geography of disease was fit into the socio-spiritual framework. In the same way that infanticide was born from communal understanding of infant viability, land made untenable by disease was recognised by those living alongside it. In 1940s Sekoti [marker no. 6], C.W. Lynn was told that sickness, blindness and 'bad fairies' causing the death of children were the primary reasons for leaving an area:

> 'The Chief and his followers asserted however, that the soil was excellent for farming, and only the presence of 'bad fairies' prevented the extensive farming which had obviously been followed there not many years before … Questioned more about the 'bad fairies' it was said that they did not interfere until a flourishing compound had been

[133] Jérôme Destombes, 'From Long-Term Patterns of Seasonal Hunger to Changing Experiences of Everyday Poverty: Northeastern Ghana, C. 1930-2000', *Journal of African History*, 47.02 (2006), 181–205 (p. 192).
[134] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 75.
[135] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, 'Conditions at Nakon U.R. March 1967,' anonymous.

> established with many children, then they came from the riverside an hum-bugged the people.'[136]

In the village of Zorse, in Kusasi District, David Cleveland found in the late 1980s that family heads may still uproot their families on account of frequent sickness and on the advice of indigenous religious practitioners 'who may advise him that the place is not healthy for his family, that there are spirits who cannot be appeased.' However, strong attachments to ancestral land meant that migrations were not undertaken lightly. Most ultimately moved only short distances, 'within Kusaok [the Kusasi homeland], where a man may have maternal relatives.'[137]

Densely-populated areas were communally and spiritually reinforced as islands of relative safety. On these watersheds, in places like Zuarungu [marker no. 3], hunger was less severe. Here, in contrast to Nakon, Purcell found that 'many who are in poor general condition show no specific signs of malnutrition; they are merely weak from hunger' [see Table 4.2 for the difference in consumption between Zuarungu and Nakon].[138] Although places like Zuarungu were affected by a seasonally deficient diet, they avoided the chronic deprivation caused by the riverine disease burden and the attendant deficit of labour. Instead, in Zuarungu, C.W. Lynn's 1931-2 investigation suggests that it was access to scant land which played the decisive role in determining the depth of hunger [Table 4.3]. Reduced population pressures facilitated investments in human and animal capital, helping also ensure food security. Indeed, further from the largest rivers and with more access to land, it was in Lawra in the north-west, Sandema [marker no. 1] and Chaana [marker no. 2] which enjoyed the greatest average consumption [Table 4.2]. However, for congested compounds or for congested districts, the facilitation of outmigration provided an important and flexible means to relieve the pressures of overpopulation, especially in times of crisis.

[136] PRAAD/T/NRG/18/8/1, Diet and nutrition (1930-57), Report by C.W. Lynn, Senior Agricultural Superintendent, Department of Agriculture, 'Depopulation of Riverine areas in North Mamprusi: Report on a visit to Sekoti, 8th/9th November, 1942.'
[137] David A. Cleveland, 'Migration in West Africa: A Savanna Village Perspective', *Africa*, 61.2 (1991), 222–46 (p. 228).
[138] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 77.

Table 4.3: Comparative statistics for compounds with and without food shortages, Zuarungu, 1931-2
Source: Based on, PRO/CO/96/751/14, C.W. Lynn, *Agriculture in North Mamprusi* (Accra: Department of Agriculture, 1937), p. 35.

	Means from 10 compounds with no food shortage	Means from 19 compounds short of food
Acres of farmed land per compound	8.16	5.66
Men farming	3.4	3.4
Acres farmed per man	2.4	1.6
Persons living in compound	14.7	11.5
Units of livestock (Fowl = 1 unit)	399	136
Persons per acre	1.8	2.03

By the 1960s, 38 percent (or 22.6 square miles) of the Nangodi polity beside the Red Volta River had been abandoned. Retreating since at least 1918, Hunter found that riverine settlements in areas particularly prone to onchocerciasis had shrunk by as much as 75 percent between 1948 and 1960 alone.[139] Situated close to a major tributary of the Sisili River, similar patterns of environmental pressure and labour shortages in Tumu preceded 'a gradual exodus of the younger people', leaving 'those remaining [to] wage a gradually losing fight with what is aptly described as the "bush."[140] Such conclusions highlight the interaction between external influences and the natural environment, yet also stress the element of choice apparent in the Northern fight against poverty. The 'fight' with the bush was a decision informed by collective experience, as was the 'exodus' to the South. Where once the flight would be to the overburdened watershed it was now mines and plantations which offered more attractive respite from want.

In the 1930s, Fortes put absenteeism of Tallensi men at between 7 and 15 percent, depending on the time of year.[141] Between the 1948 and 1960 census, the population of the Tallensi homeland, the Frafra District, had actually declined as 23 percent of 'Frafras' were now accounted for elsewhere, the vast majority of whom employed in 'general labour' on cocoa farms or gold mines.[142] Comparisons between Fortes' 1930s survey and Hart's late 1960s one suggest that demographic and health pressures in the far north-east worked in conjunction with increasing external opportunities in order to promote outmigration. In Tongo, where the adult male population per compound averaged 2.6

[139] Hunter, 'River Blindness', pp. 405–17.
[140] TNA/CO/859/115/3, Gold Coast: extracts from informal colonial medical reports, development plans and other papers [pertaining to nutrition], 1944-1946. G.H. Gibbs, Chief Commissioner N.T.s, to the Colonial Secretary, 2/2/1944.
[141] Fortes, *Dynamics*, p. 72.
[142] Konings, pp. 249–50.

men in 1934, by 1967 it had doubled to 6.0. However, of these six men, only half were working on farms at home. In an era of falling child mortality and swelling families, only outmigration mitigated what should have been calamitous demographic and environmental pressures.[143] Despite a continuing element of uncertainty, by the 1960s cash income from the south was important for hungry families and could bring in far more than local extra-subsistence earnings.[144] As in Machakos, such income may have played a role in the partial adoption of innovative, capital-dependent agricultural techniques promoted by colonial agricultural officers during the 1940s and 1950s. However the deeply peripheral position of the Gold Coast's north-east precluded the investments afforded in Machakos and developments were never really sustainable or productive.[145] Still, the expanded labour market broadened the 'opportunity structure' of even these poor and peripheral areas. Over the course of the colonial period, increased mobility, the growth of regional urban centres like Tamale and Bolgatanga, the reduced cost of transport and the social security provided by *zongo* communities bolstered the viability and profitability of the migrant economy at home and in the urban world. This allowed previously insular communities to expand and operate within and across regions, promoting the movement from short to long-term migration.[146]

Of course, the viability and profitability of migration was not universal. It was, perhaps, not even the norm. In Kusasi, for instance, Cleveland presents a particularly dismal view of long-term migration, where the colonial promotion of proletarianisation undermined traditional demographic controls and perhaps heightened insecurity at home. No longer dependent upon lineage or land for bridewealth, outmigration may have preceded fertility increases and actively furthered population pressures.[147] The labour market was also notoriously unreliable throughout this period, and men from the Northern Territories were particularly liable to suffer destitution or death in Tamale or in the towns of the South.[148] Moreover, profits made away did not necessity filter back to those left at home. In the 1930s, remittances from Tallensi migrants were rare and long-term migrants was sorely missed during the harvest.[149] Long-term economic migration was understandably 'a source of considerable concern to their elders,' largely because it

[143] Hart, 'Opportunity', p. 323.
[144] Hunter, 'Seasonal Hunger', p. 171.
[145] Paul Webber, 'Agrarian Change in Kusasi, North-East Ghana', *Africa*, 66.3 (1996), 437–57 (pp. 442–51).
[146] Keith Hart, 'Informal Income Opportunities and Urban Employment in Ghana', *The Journal of Modern African Studies*, 11.1 (1973), 61–89; Hart, 'Opportunity', pp. 328–30.
[147] Cleveland, p. 238.
[148] Adame Labi and B. Selormey, *Report on the Enquiry into Begging and Destitution in the Gold Coast, 1954* (Accra: Government Printer, 1955), p. 5.
[149] Fortes, *Web*, p. 218.

threatened the family-oriented social security which supported the dependent poor in particular.[150] By the mid-1950s, 'in Tamale and the North beggars beg for food and the problem there is one of poverty, lack of sufficient food during the months before the harvest is ripe, old age and sickness.'[151] North-south migration was also seen to accentuate the Northern disease burden, facilitating the spread of trypanosomiasis and, later, the growth of sexually transmitted disease. Indeed, throughout the Northern Territories, syphilis was known as the 'Kumasi Sickness.'[152]

It would be rash to attempt a generalised assessment of the value of migration during these years. Where migration relieved pressure on the supply of food in one household, in another the loss of labour undermined the basic tenets of food production. However, as the most important expression of economic agency available in the highly 'dependent' colonial economy, migration was approached with the same pragmatic flexibility that had long ensured Northern survival. Its uptake should be taken as proof of Hart's suggestion that, even in the furthest wilds of the Gold Coast, what opportunities were offered by the colonial economy were readily recognised and regularly taken.[153] However, the benefits granted by market integration obscure the structural vulnerabilities which came with it. These were, on average, years in which nutritional status improved across the North. Heights increased for those born in the savannah as bargaining power grew for, and remittances grew from, Northern migrants working cocoa farms in the forest.[154] However, these new opportunities were only valuable as long as the opportunities stayed viable. In Machakos, Tiffen et al's story ended in 1989, just as the Kenyan economy began to contract.[155] Murton's 1999 restudy presented a dour picture of Machakos in a period when reduced off-farm income meant fewer people could afford the expensive agricultural inputs which had ensured productivity in previous years. Poor families

[150] TNA/CO/96/751/14, C.W. Lynn, *Agriculture in North Mamprusi* (Accra: Department of Agriculture, 1937), p. 11; Bening, 'Evolution', p. 143.
[151] Labi and Selormey, p. 5.
[152] Jeff D. Grischow, *Tsetse and Trypanosomiasis in the Gold Coast, 1924-1954*, WOPAG - Working Paper on Ghana: Historical and Contemporary Studies (Helskini: Institute of Asian and African Studies, University of Helsinki, 2005), pp. 1–22 (p. 8); Emmanuel Akyeampong and Samuel Agyei-Mensah, 'Itinerant Gold Mines? Mobility, Sexuality and the Spread of Gonorrhoea and Syphilis in Twentieth Century Ghana', in *Sex and Gender in an Era of AIDS: Ghana at the Turn of the Millennium*, ed. by Christine Oppong, M. Yaa P.A. Oppong, and Irene K. Odotei (Legon: Sub-Saharan Publishers, 2006), pp. 41–58.
[153] Keith Hart, 'The Economic Basis of Tallensi Social History in the Early Twentieth Century', in *Research in Economic Anthropology: An Annual Compilation of Research*, ed. by George Dalton (London: JAI Press, 1978), pp. 185–216.
[154] Moradi, pp. 1113–15; Moradi, Austin, and Baten, p. 23; Gareth Austin, *Labour, Land, and Capital in Ghana: From Slavery to Free Labour in Asante, 1807-1956* (Rochester, NY: University of Rochester Press, 2005), pp. 424–30.
[155] Tiffen, Mortimore, and Gichuki.

continued to invest their labour in physical improvements to the land, such as terracing, but the consequent increase in productivity was not enough to match the increase in population. In 2000, drought hit Machakos, and a number of the poor starved to death.[156] We can, perhaps, trace a similar story through the history of Northern Ghana, where the erosion of demographic insurances during periods of economic growth preceded the return of hunger in later episodes of market contraction.

Perhaps more importantly, the use and value of outmigration was also responding to the quickly changing and spatially dependent demands of the globalising Gold Coast economy. Into the 1950s, migration began to drain areas less prone to endemic food insecurity, such as the far north-west or the sparely-populated Gonja and Dagomba areas a little further south. Here, migration was not simply dictated by survival but also by adventure and the desire for new forms of status and wealth.[157] As Abdul-Korah has explained, Dagaaba migrants saw travel to 'Kumasi' as a way of seeing the world, acquiring status goods and perhaps also a wife on their return – one interviewee remarked that '"if you did not go to 'Kumasi,' the girls will not even mind you when you talk to them."'[158] For a long time, at least in the north-west, cash was only a minor motivator behind migration. In 1937, after counting the district's tax revenue, the Commissioner of Lawra-Tumu was 'surprised to see that most of the takings were … old coins, and a large proportion showing signs of having been buried.'[159] However, into the later colonial period the need for cash, to purchase bicycles or cloth, motivated more sojourns south. By 1952 it was 'generally accepted that the reasons why the men leave the North for work in the Colony and Ashanti are as follows: to make money to take home either as savings or as goods … [and] because there is little to keep them in the North during the dry season when there is no farming to be done and food and water are short.'[160] The motivations behind migration were never static but changed according to various temporal and spatial demands.[161] At first, outmigration was rooted in structural, absolutist understandings of poverty, bound up in famine, endemic hunger and Malthusian crisis. Later, migration was encouraged by new, relativist acknowledgements

[156] John Murton, 'Population Growth and Poverty in Machakos District, Kenya', *The Geographical Journal*, 165.1 (1999), 37–46.
[157] Hawkins, *Writing*, pp. 83–86.
[158] Gariba B. Abdul-Korah, '"Ka Biɛ Ba Yor": Labor Migration among the Dagaaba of the Upper West Region of Ghana, 1936–1957', *Nordic Journal of African Studies*, 17.1 (2008), 1–19 (p. 8).
[159] Quoted in, Hawkins, *Writing*, p. 212.
[160] PRAAD/T/NRG 8/17/8, 'Annual Report on the Conditions of Labour in the Northern Territories, 1952.'
[161] Abdul-Korah, 'Labor Migration'; Gariba B. Abdul-Korah, '"Now If You Have Only Sons You Are Dead": Migration, Gender, and Family Economy in Twentieth Century Northwestern Ghana', *Journal of Asian and African Studies*, 46.4 (2011), 390–403.

of poverty, driven by personal aspiration and formed from increasing interactions with both South and West.

d. Social reproduction and gender conflict in the migrant economy

Changes to food security are only part of the story of nutrition during these years. As elsewhere, nutritional status was also partially defined by the construction of the family, by childrearing practices and by gender roles, all things which changed significantly as young men moved south for work. Since migration was initially seasonal and short-term and since urban employment discriminated against women, wives and children were usually left behind. The Gold Coast's censuses speak to the scale of migration. By 1931, adult sex ratios for the North showed 92 men for every 100 women, highlighting the gendered nature of outmigration and the increasingly gendered burdens of everyday social reproduction. Most of the missing men seem to have been absorbed by the Colony and especially by Asante where, in 1931, there were 112 men for each 100 women. By 1960, the figures for the North were even starker, with only 86 adult men recorded for every 100 women.[162] With a growing dearth of male labour, Northern subsistence was increasingly reliant on the labours of women forced into riskier modes of social reproduction.[163] However, women were never passive victims of colonialism but, as in Asante [Chapter 3], worked to actively ensure their security against the gendered hardships of the migrant economy.

Son preference and gender inequality was deeply entrenched in Northern communities. As we have already seen [Map 4.2], gender disparities in education were especially obvious in the North and similar patterns were also seen in health-seeking. In 1953, only 36 percent of inpatients in the Northern Territories were women. For the same year, women in Asante made up 49 percent of inpatients.[164] Gendered patterns of consumption also led to gendered nutritional indicators. Purcell, for instance, found that 'any and every kind of animal flesh may be eaten but most is usually consumed by male adults as part of a sacrificial rite.'[165] Richards found similar dietary patterns in Northern Rhodesia during the 1930s.[166] In the Gold Coast's cocoa belt, Colbourne et al found much

[162] Gold Coast Government, *The Gold Coast Appendices, Containing Comparative Returns and General Statistics of the 1931 Census* (Accra: Government Printer, 1932); Ghana Government.
[163] Steven Feierman, 'Struggles for Control: The Social Roots of Health and Healing in Modern Africa', *African Studies Review*, 28.2/3 (1985), 73–147 (pp. 99–105).
[164] *MDAR* 1953, p.86
[165] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 43
[166] Richards, p. 76.

higher rates of adult female malnutrition, but little evidence for disparities in infancy.[167] Still, in comparison to men in Purcell's respective samples, women in the North were markedly shorter and lighter than their neighbours in the forest.[168] In Nangodi, during Hunter's 1963-4 survey, women suffered a greater degree of seasonal weight loss than men.[169] During one postcolonial food shortage, girls in hungry Upper Region villages presented with significantly lower BMIs than the men, boys and adult women surveyed [Table 5.4].[170] Elsewhere, such as during Nyasaland's 1949 famine, Vaughan explained greater levels of female mortality in terms of lost direct entitlements to food from their gardens and dwindling indirect entitlements, such as beer brewing, due to lack of demand.[171] Although the gendered nature of household labour requirements, food allocation and health-seeking goes some way to explain anthropometric disparities, failures of entitlement better explain a mechanism of gendered neglect.

In the Northern Territories, female entitlement was probably lowest during the decade-or-so spent away from the constant care of mothers or grandmothers and before the relative safety of marriage when, in the traditional economy, women's value was more readily recognised. In the patrilocal North, unlike in Asante, boys had traditionally contributed more to the food security and long-term maintenance of the family. The value of female children was, conversely, relatively short-lived. Before marriage, girls were a useful source of household labour but, after marriage, new wives would generally move into their husband's compound. Brideprice, usually in the form of cattle, went some way to make up for the family's loss of labour. However, according to Fortes and Fortes, such livestock 'will as likely as not be used immediately to pay a debt or, more rarely, to make a special and urgent sacrifice.'[172] Even if they were not sold immediately, for many people livestock numbers would dwindle away over time, 'during the three or four hungry months, from April until June [when] the farmer is obliged to sell some, or

[167] Colbourne and others, p. 282.
[168] 'Forest country' women averaged 96 percent of the height and 93 percent of the weight of men in the sample. In the North, the figures were 94 and 89 percent respectively. PRAAD/A/ADM/11/1/1294, Purcell, 'Report', pp. 3, 108.
[169] Hunter, 'Seasonal Hunger', p. 179.
[170] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, 'Conditions at Adabeya (Arabie) April, 1967,' anonymous.
[171] Megan Vaughan, *The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi* (Cambridge: Cambridge University Press, 1987), pp. 119–47.
[172] M. Fortes and S.L. Fortes, 'Food in the Domestic Economy of the Tallensi', *Africa*, 9.2 (1936), 237–76 (p. 248).

all of his modest reserve of livestock … in order to buy essential food.'[173] On the other hand, resident, adult kin actively worked to avert such crises.[174]

In the marginal savannah environment, family structures were actively shaped by entitlements. As Fortes explained of the Tallensi, 'while taking a bride may be an affair of individuals, making a valid marriage is a cooperative concern.'[175] The family orientation of savannah food security left 'the head of the unit of food economy' heavily involved in each brideprice transaction of his dependent kin.[176] Marital food security worked the other way too, and a 'shortage of food' or a failure to support one's wife was considered a 'genuine grievance' and good grounds for a Tallensi woman to abandon her husband.[177] Food, and especially supplementary, famine foods were central to the making of a marriage. 'In congested Mamprusi', where groundnuts were 'the principal famine season food';

> 'Every man seems to have a groundnut patch, and every woman has one also. The husband makes it for her; and is the first big thing a young man does for his betrothed. The crop belongs solely to the woman, to dispose of how she chooses.'[178]

With the status and relative autonomy afforded by marriage, and more so by motherhood, rural women played a central role in extra-subsistence production and, by extension, food security. According to Purcell, women's supplementary income (pito brewing, shea butter manufacture, weaving or the sale of firewood) 'may earn enough money to buy essential food in times of scarcity.'[179]

Women's position as the arbiters of valuable human capital afforded a greater degree of autonomy outside of their parents' compound. Indeed, women's agency within conjugal relationships was common across the Northern Territories but fairly alien to the European administration;

> 'Many of these women, having tasted emancipation, are not satisfied until they have tried as many as ten husbands. It is not the white man who has brought this about. Such has been the practice for long past. It led to murder and war and raids; today it leads to disputes and

[173] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 58
[174] R.S. Rattray, *The Tribes of the Ashanti Hinterland* (Oxford: Clarendon Press, 1932), p. 138.
[175] Meyer Fortes, *Marriage Law among the Tallensi* (Accra: Government Printer, 1937), p. 5.
[176] Fortes, *Marriage Law*, p. 9.
[177] Fortes, *Marriage Law*, p. 16.
[178] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 36
[179] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 58.

> complaints beyond number, and incidentally at times to a half-crazy commissioner.'[180]

During the colonial period, this degree of autonomy was taken by the state to be a threat to the supply of Northern labour. As male outmigration undermined the tenability of the traditional unions based upon mutual assistance, 'wives' were said to have often abandoned their absentee 'husbands.' As Sean Hawkins has explained with reference to court documents discussing LoDagaa marriages in Lawra District, colonial legislation intervened, 'ensuring that women's freedom did not discourage men from "volunteering" for labour recruitment.' Instead, administrators and chiefs redefined marriage and adultery in order to bind women to absent partners.[181] Together with the widespread loss of male labour, growing restrictions on female autonomy had the potential to undermine the nutritional status of dependent children by curtailing previously legitimate forms of food security based on family augmentation and socially-reinforced conjugal responsibility. Colonial legislation rescinded these freedoms, leaving women increasingly reliant on spouses who, due of the vagaries of waged employment, were becoming increasingly unreliable.

Although the growth of the migrant economy placed greater demands at the feet of rural women across the North, women were not passive victims of process but provided security for themselves and their children by moving into the space created by colonial reforms. By the 1960s, extra-subsistence trading could be more profitable than, for instance, the local sale of a man's labour. According to Hunter, 'women in possession of a few shillings may buy grain in a distant market, walking many miles in the process, sell it locally, and measure their profit in terms of a calabash (bowl) or so of grain. Wealthier 'capitalists' (always women) deal on a bigger scale and make bigger profits.'[182] Women in possession of particular skills or any degree of capital generally lost less weight, or even gained weight, during the lean season.[183] Although courts were ostensibly created by and for male ends, women were increasingly ready to challenge their husbands through these new organs.[184] Others utilised the freedoms and discrepancies left between Christianity

[180] Cardinal, p. 76; See also, Fortes, *Marriage Law*, p. 11.
[181] Sean Hawkins, '"The Woman in Question": Marriage and Identity in the Colonial Courts of Northern Ghana, 1907-1954', in *Women in African Colonial Histories*, ed. by Jean Allman, Susan Geiger, and Nakanyike Musisi (Bloomington: Indiana University Press, 2002), pp. 116–43 (p. 123).
[182] Hunter, 'Seasonal Hunger', p. 171; This is very similar to the pattern described in the 1930s, Fortes and Fortes, p. 246.
[183] Hunter, 'Seasonal Hunger', p. 178.
[184] Hawkins, 'Marriage'.

and indigenous gender roles, others still took advantage of the sparse opportunities offered by education.[185]

In general, and as was the case in Asante, colonisation tested the limits of traditional modes of social reproduction and brought about a degree of gender conflict.[186] For instance, following something of an epidemic of 'witchcraft' in Asante, in 1955 the Dagomba experienced an outbreak of 'witch finding' associated with the 'Nana' healing cult.[187] During the Nana witch-hunt, younger women levelled accusations against older, wealthier women referring 'either to the killing of young men or to their being driven away to the coast.'[188] In the past, few Dagomba had left to work in the South, a procession dominated by peoples from further north, 'but now the genealogies record a high percentage … as "Gone to the Coast"'; that is, their locations are not precisely known, in sharp contrast with the contact kept as a rule by Dagomba.'[189] Since the witches were 'women of the households least dependent on the year's crops', David Tait explains the Nana witch hunt as a generational conflict born from apprehensions over outmigration, the Gold Coast's looming independence and food security in a changing world;

> 'The elderly widows are an economic burden on young men who are usually not their own but their brother's sons. Further, elderly wives in large households do not always take much share in the heavy work of the household but instead organize the young women who do it …. At a time of year when there is great anxiety about crops and about rain (that is, fear of the future in a subsistence economy), these tensions, it is suggested, found release.'[190]

Allegations of witchcraft had long been a gendered form of control. In Gonja, for instance, the characterisation of female witches as evil and male witches as benevolent reflects a pattern of gender relations arranged to deny female freedoms.[191] In Mamprusi, during the early 1990s, Drucker-Brown associated a spate of witchcraft allegations with strained gender relations in a time of increased reliance on cash-income. As women increased the range and diversity of their trading, 'the fear of witchcraft has grown as

[185] Andrea Behrends, '"Pogminga": The "Proper Dagara Woman": An Encounter between Christian Thought and Dagara Concepts', *Journal of Religion in Africa*, 32.2 (2002), 231–53.
[186] A gender history of Northern Ghanaian community still needs to be written, although Hawkins has made some headway, Hawkins, *Writing*, pp. 227–76.
[187] John Parker, 'Northern Gothic: Witches, Ghosts and Werewolves in the Savanna Hinterland of the Gold Coast, 1900s-1950s', *Africa*, 76.3 (2006), 352–80 (pp. 374–75).
[188] David Tait, 'A Sorcery Hunt in Dagomba', *Africa*, 33.2 (1963), 136–47 (pp. 141, 144).
[189] Tait, p. 145.
[190] Tait, p. 144.
[191] Esther Goody, 'Legitimate and Illegitimate Aggression in a West African State', in *Witchcraft Confessions and Accusations*, ed. by Mary Douglas (London: Routledge, 2004), pp. 207–45.

men's dependence on women has increased, and the increasing autonomy of women threatens both men's control of women and the control by senior women of their juniors.'[192] Although the Dagomba witch hunt originated in the anxieties of young women rather than men, it stemmed from similar concerns, from a loss of power or a loss of agency and from doubts over survival in a changing landscape.

'The real issue,' Vaughan suggests, 'was that with far-reaching changes taking place in economic relations, so enormous strains were placed on both gender and generational relations … these complex changes were described in terms of degeneration.' Where colonial observers saw degeneration in terms of 'uncontrolled sexuality and disease', dependency theorists later recognised migration as 'an element in unequal development, reproducing the same conditions and contributing in this manner to their aggravation.'[193] What took longer to realise, however, was that this peripheral decline was felt most acutely by women and their dependents, left in the midst of a 'reconfigured patriarchy rooted in both indigenous and colonial ideologies.'[194] The colonial period was a time when traditional modes of production and reproduction were refigured by new avenues for capital accumulation and new demands upon the household economy. Colonial legislation and the growth of the market presided over a to-and-fro between the expansion and restriction of female power. Generally, though, demographic shifts under colonial governance burdened women with dual responsibilities over farm and family, undermining both food production and the domestic economy of childrearing. The increasingly difficult lived experiences of young mothers soured the prospect of Northern life for their sisters and daughters, setting the scene for the feminisation of migration and a greater rejection of traditional domesticity in Ghana's North [see also Chapters 6 and 8].[195]

With few health workers and sparse reportage, assumptions regarding Northern nutrition were reliant on Purcell's observations that 'gross stigmata of malnutrition in early years … are exceptional, and obvious signs of present illnourishment such as wasting or oedema are rare.'[196] Within a decade, such conclusions were either outdated or built on incomplete understandings of a diverse and diversifying food environment.

---

[192] Susan Drucker-Brown, 'Mamprusi Witchcraft, Subversion and Changing Gender Relations', *Africa*, 63.4 (1993), 531–49 (p. 548).
[193] Vaughan, *Curing Their Ills*, p. 144; Amin, 'Introduction', p. 93.
[194] Jean Marie Allman, Susan Geiger, and Nakanyike Musisi, 'Women in African Colonial Histories: An Introduction', in *Women in African Colonial Histories*, ed. by Jean Marie Allman, Susan Geiger, and Nakanyike Musisi (Bloomington: Indiana University Press, 2002), pp. 1–18 (p. 2).
[195] Caldwell, *Rural-Urban*; Abdul-Korah, '"Only Sons"'.
[196] PRAAD/A/ADM/11/1/1294, Purcell, 'Report', p. 6

When a child welfare clinic was finally established in Tamale in the 1950s it was 'overwhelmed' with cases. The sole paediatrician, C.O. Moody, found that 'our ideas on the prevalence of protein deficiencies in children are being revised, we came across many more cases of acute and chronic deficiencies than we had expected to find.'[197] With increasing demands on maternal time and energy, the gendered strains of colonial capitalism were starting to affect nutrition in the savannah, just as they were in Asante, and probably by much the same mechanism.

However, in Asante and elsewhere across the South, indigenous capitalism, diversified production and a politically significant civil society promoted investments in human capital. By nature of its peripheral orientation, the North, on the other hand, was denied political purchase and similar advances in terms of health and education. Even in the Gold Coast's far north-east, where a proneness to Malthusian crises coincided with a uniquely difficult disease environment, the administration recognised that an 'adult and infant mortality rate unchecked by any medical or sanitary improvements has reduced the population below the level at which the farming system based on shifting cultivation can be worked.'[198] At the same time, the social and demographic insurances provided by the relatively insular economic environment of the precolonial nineteenth century were broken down by free-market doctrines which promoted new forms of food insecurity, the worst effects of which were, however, partially allayed by colonial relief. Although bounded by the old restraints of a hostile savannah and the new structural impositions of a coercive colonial market, food insecurity was never passively accepted. Granular spatial variations in the volatile nutrition environment has long afforded migration a central place in the mitigation of hunger across the savannah. Denied purchase in other parts of the economy, the colony-wide labour market offered a degree of economic dynamism and afforded an important space in which the Northern poor could exert agency over their own survival. With access to the labour market constrained by age, gender and ability, the burdens of savannah existence were shifted largely onto the women left behind and the insecurity heaped upon the dependent poor reliant on cross-generational assistance. As was the pattern elsewhere in the Gold Coast, the slow ascendency of cash and capitalism preceded new forms of nutrition insecurity derived as

[197] PRAAD/T/NRG/8/13/29, Child Welfare Clinic, Tamale, 1954-1963, C.O. Moody, Principle Medical Officer, Northern and Upper Regions, to the Secretary to the Regional Commissioner, Tamale, 'Re: Child welfare, ante-natal and post-natal clinics in Tamale', undated, probably mid—1950s.
[198] PRAAD/A/CSO/20/6/4, Northern Territories Welfare Committee, 1944-45, 'Agenda for conference of Northern Territories welfare committee meeting', 21/1/1944, p. 4.

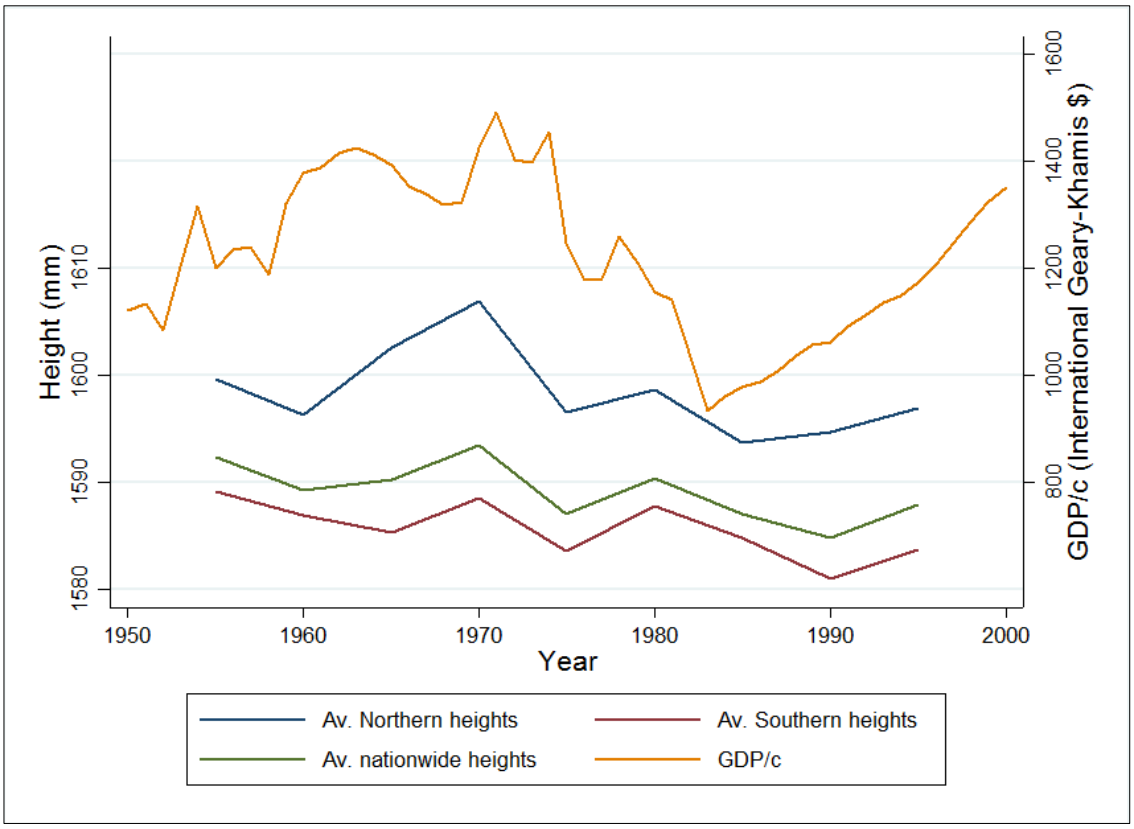
much from the pervasive devaluation of domestic reproduction as from the enduring struggle for food.

5. NUTRITION IN INDEPENDENCE: THE RETURN OF FAMINE AND THE NATURE OF POSTCOLONIAL FOOD CRISIS, C. 1957-1983

'If we were forced to sum up the Gold Coast economy in one word', begins the 1952 Seers and Ross report, 'the word we would choose would be 'fragile.'' Engaged by the outgoing colonial government to assess the viability of self-rule in the Gold Coast, Seers and Ross go on to explain that, amongst other things, the Gold Coast had a low tax revenue; there were no checks on inflationary spending; transport infrastructure was poor; price controls were ineffective; inventories of goods were insufficient and the supply of local foodstuffs was inelastic; foreign exchange was only derived from cocoa, the price of which could shift significantly year on year; disease and malnutrition caused low productivity; poor education caused shortages of skilled labour; and the sparse use of saving institutions denied the formation of a capital market.[1] The fragility formed by these shortcomings was, however, obscured from view by the post-war commodity boom and Ghanaian independence was won at a time of tremendous promise, a time when many believed that astute economic planning could exploit favourable world cocoa prices and secure the future of independent Ghana, setting an example for independent Africa. After a decade and a half of low or controlled prices, lasting from the Great Depression to the end of the Second World War, the price of cocoa went into sharp ascent and, on the face of it, the population enjoyed the benefit. GDP per capita grew steadily into the early 1970s, except for a brief slump during the late 1960s, and was reflected in improving standards of health and nutrition, with the cohort of women born between 1968 and 1972 the tallest on record [Figure 5.1]. However, ostensible early success would prove something of a mirage. Built on already unstable foundations, declining world cocoa prices, political instability, military governance and poor economic planning saw Ghana slide into a ten-year decline which was reflected in falling nutritional status, was highlighted by the return of isolated but acute pockets of famine in the late 1960s and, in the early 1980s, culminated in food market collapse and an unprecedented epidemic of nutritional illness.

[1] Dudley Seers and Claud Richard Ross, *Report on Financial and Physical Problems of Development in the Gold Coast* (Accra: Office of the Government Statistician, 1952).

Figure 5.1: Average adult female heights by birth year and GDP/capita, 1953-1998
Source: GDHS, 1988-2014; GDP/c from Jutta Bolt and Jan Luiten van Zanden, 'The First Update of the Maddison Project: Re-Estimating growth before 1820', 2013 <https://www.clio-infra.eu/datasets/select/indictorr/288/> [accessed 16 November 2014]. Heights taken as five year averages of women aged between 16-60 years at the time of the survey. Inspired by, Alexander Moradi and Joerg Baten, 'Inequality in Sub-Saharan Africa: New Data and New Insights from Anthropometric Estimates', *World Development*, 33.8 (2005), 1233–65.



There have been many fine histories of Ghana's economic collapse and, although few agree, most lament an opportunity missed. For many, the recent history of newly independent Ghana is 'only a history of shattered dreams' and a case study 'of how not to develop.'[2] Marxist commentators in the 1960s and 1970s, including Nkrumah himself, felt that early attempts to create a truly postcolonial economy were stymied by the conservative military or by the workings of the neo-colonialist international capitalist system.[3] Tony Killick's hugely influential *Development Economics in Action* used Ghana's plight to highlight the weaknesses of 'modernisation theory', 'centred around an industrialization drive, emphasizing import substitution, structural change and a less

[2] Michael Roemer, 'Ghana 1950-80: Missed Opportunities', in *World Economic Growth: Case Studies of Developed and Developing Nations*, ed. by Arnold C. Harberger (San Francisco, CA: ICS Press, 1984), pp. 201–26 (p. 202).
[3] Robert Beck Fitch and Mary Oppenheimer, *Ghana: End of an Illusion* (London: Monthly Review Press, 1968); Kwame Nkrumah, *Neo-Colonialism: The Last Stage of Imperialism* (London: Panaf, 1965).

open economy … achieved largely through the instrumentalities of the state.'[4] By the 1990s, important works by the likes of Rimmer and Frimpong-Ansah began to side-line external economic conditions, instead explaining that Ghana's economic decline was largely the result of the fiscal imprudence and the economic vampirism of successive governments.[5] However, such arguments perhaps understate the sincerity of these governments and the political necessity of continuing growth.[6] The precise reasons for Ghana's falter and fall have been the subject of many volumes and will probably be the subject of many more, but what is most important for us is the impact of independence economics on the lot of the poor. In many respects, Rimmer is correct in his conclusions that there was scant improvement in terms of poverty and that life had hardly changed for many Ghanaians following independence, especially those living in the savannah.[7] However, Ghana's particular development trajectory had various impacts on food economies and domestic arrangements across the country. The macroeconomic environment was clearly reflected in nutritional status but these mechanisms remain unexplored and the precise reasons for nutritional improvement under Nkrumah and nutritional decline in the years afterwards need to be unpicked.

a. The roots of famine in the First Republic, c. 1957-1966

i. Food deficits and agricultural decline

Ghana gained its independence slowly. Prior to its total emancipation in 1957, the 1951 election earned Nkrumah the position of Leader of Government Business in a cooperative colonial government. Further general elections in 1954 and 1956 established Nkrumah as *de facto* leader and the strength of the CPP's mandate to rule. Nkrumah's primary policy was the exploitation of high market prices for cocoa in order to implement a relatively hawkish strategy of economic diversification. This sought to transform the country from a subsistence and smallholder-oriented economy to a capitalist one based on wage labour, capable of sustained growth and of providing, in the long-term, rising wages. Cocoa farming, as the primary export sector, was squeezed hard in order to fund this modernisation. The Cocoa Marketing Board (CMB) monopolised

[4] Tony Killick, *Development Economics in Action: A Study of Economic Policies in Ghana* (London: Heinemann, 1978), p. 2.
[5] Douglas Rimmer, *Staying Poor: Ghana's Political Economy, 1950-1990* (Oxford: Pergamon Press, 1992); J.H. Frimpong-Ansah, *The Vampire State in Africa: The Political Economy of Decline in Ghana* (James Currey, 1991).
[6] Gareth Austin, 'National Poverty and the "vampire State" in Ghana: A Review Article', *Journal of International Development*, 8.4 (1996), 553–73.
[7] Rimmer, p. 6.

the purchase of cocoa at set prices, adding vast amounts to government coffers and diverting surpluses towards ambitious state-building projects, alienating much of Asante and contributing to the rise of Asante nationalism in the process.[8] The inherited 1951 First Development Plan – initially designed by colonial governor Sir Charles Arden-Clarke – concentrated almost exclusively on infrastructure and social services and allocated only five percent of its budget to the agricultural sector, restricting the inputs needed to continue colonial-era levels of production.[9] The effects of such policies on food production were clear to W. Arthur Lewis, Nkrumah's special economic advisor and later Nobel laureate. In a 1953 report, Lewis stressed that the 'main obstacle [to diversification] is the fact that agricultural productivity per man is stagnant' and recommended 'vigorous measures to raise food production.'[10]

Following state visits to the USSR, China and Eastern Europe in 1961, Nkrumah formally adopted socialism, dropped the Second Development Plan, written by Lewis, and set his sights on a 'big push' towards rapid industrialisation. However, by the time of the 1963/4 Seven-Year Plan, the planning commission recognised that 'Ghana needs an agricultural revolution as a precondition for the Industrial Revolution at which policy is aiming eventually.'[11] By this time, there was 'a real sense in which Nkrumah was turning Ghana into a "command economy" in which the state was gradually taking over all major economic activities,' including food production.[12] However, investments in agriculture were inefficient and did little to improve marketing networks or to boost production for the mass of peasant cultivators, Ghana's primary food producers. Continuing to use traditional, simple tools, outputs per man failed to improve between 1906 and 1965.[13] This was mainly due to the CPP's concentration on the development of large-scale, state-owned mechanised farms. Under the 1963/4 plan, state-sector producers – the State Farms Corporation (SFC), the Workers' Brigades and the United Ghana Farmers' Cooperative Council (UGFCC) – were allocated nearly a quarter of the funds set aside for agriculture. However they farmed less than one percent of agricultural land, contributed

[8] Frimpong-Ansah, pp. 73–92; On Asante nationalism and the need for so many elections see, Allman, *Quills*.
[9] Gold Coast Government, *The Development Plan, 1951: Being a Plan for the Economic and Social Development of the Gold Coast as Approved by the Legislative Assembly, September 1951* (Accra: Government Printer, 1951).
[10] W. Arthur Lewis, *Report on Industrialisation and the Gold Coast* (Accra: Government Printer, 1953), p. 4.
[11] Ghana Government, *Seven-Year Plan for National Reconstruction and Development: Financial Years 1963/64-1969/70* (Accra: Office of the Planning Commission, 1964), p. 56.
[12] Killick, p. 48.
[13] Ferdinand Stoces, 'Agricultural Production in Ghana, 1955-65', *The Economic Bulletin of Ghana*, 10.3 (1966), 3–32 (p. 10).

as little as 0.5 percent of the country's food requirements and underperformed relative to peasant production in both yields per acre and tons per worker.[14] The hastily undertaken mechanisation of these farms contributed part of this costly failure, one contemporary agriculturalist noting that 'perhaps nowhere else in the tropics can so many tractors be seen lying in yards or abandoned in the bush.'[15] At the same time 'the clock stopped on agricultural research', undermining long-term production. Instead state producers converted research stations into production centres, declaring 'agricultural research a waste of time and money, an irrelevant and unproductive activity associated with men who were only competent to talk and write about food but who could not produce it themselves.'[16]

Agricultural mis-investment undermined the viability of agricultural expansion in a period of massive population growth. Increasing urbanisation further diminished the productive potential of the countryside. Between 1948 and 1960, Accra's population grew by 181 percent, Kumasi's grew 167 percent, Sekondi-Takoradi's 140 percent and Tamale's 83 percent. The national population only grew by 40 percent over these same years.[17] With in-country food production lagging behind population growth, food imports became more important throughout the 1960s. However cocoa, the primary source of foreign exchange, had been falling in price since as early as 1956 and, as the Seven Year Plan noted, foreign exchange was 'one of the scarcest of the resources needed for Ghana's economic development.'[18] Struggling to balance industrial modernisation, 1960 saw the 'beginning of an uninterrupted series of sizeable budget deficits as well as the use of money creation as an instrument of financing the deficits.'[19] These problems were only exacerbated by the decline in local food production. Even in 1957 Ghana was running a significant food deficit but, between 1961 and 1966, inflation of the cedi and declining agricultural production meant that spending on food increased from 338 million cedis to 888 million.[20]

---

[14] Gerardo Serra, 'From Scattered Data to Ideological Education: Economics, Statistics and the State in Ghana, 1948-1966' (unpublished PhD, London School of Economics, 2015), pp. 208–12; Killick, pp. 193–94.
[15] J. Gordon, quoted in, Serra, 'Scattered Data', p. 212.
[16] S. La-Anyane, 'Research in Agriculture in Relation to National Economic Development', in *Scientific Research in Ghana: Proceedings of the Workshop on Research Priorities and Problems in the Execution of Research in Ghana* (Washington, D.C.: National Academy of Sciences, 1971).
[17] Gold Coast Government, *1948 Census*; Ghana Government, *1960 Census*.
[18] Ghana Government, *Seven-Year Plan*, pp. 61, 56.
[19] Naseem Ahmad, *Deficit Financing, Inflation and Capital Formation: The Ghanaian Experience 1960-65* (München: Weltforum Verlag, 1970), p. 24.
[20] Ghana Government, *Economic Survey, 1968* (Accra: Government Printer, 1969).

At the same time, food marketing and distribution also began to stagnate. In 1967, Lawson found that;

> 'Market facilities in the main, large markets of Ghana, in Accra and Kumasi, have not kept pace with the rapid increase in population. Ten years ago a great deal of trade was carried out by itinerant traders who plied their trade on the sidewalks and by 'calling' as they walked around. This is now largely prohibited yet the main markets in Accra are no larger than they were 20 years ago.'[21]

Centralised marketing strategies further reduced competition in the trade in foodstuffs. Through the Ghana National Trading Corporation (GNTC), the state established a virtual monopoly over the marketing and distribution of imported foods and, via various marketing boards, began to exercise influence over the internal marketing of foods as well. However, as with production, state-led marketing efforts struggled to penetrate the relatively isolated food-surplus areas and could not compete with the extant class of self-employed traders that were 'characterised by low labour costs, very little overhead apart from transport costs, and a well-developed entrepreneurship, which operates with a great amount of mobility and flexibility.'[22] Transport efficiency also declined in the early 1960s. Cuts to spending on infrastructure after the 1963/4 plan meant that the construction of feeder roads was curtailed. Due to the shortage of foreign exchange, fewer vehicles were imported and the average age of the national fleet grew as its roadworthiness declined.[23]

As with many other problems in the administration of early independent Ghana, corruption and the widespread misallocation of funds also played a part.[24] Recalling his visit in the early 1960s, Cambridge economist, Nicholas Kaldor wrote that;

> 'The ambience of the government was that of a medieval court, flamboyant, extravagant and corrupt. An initially strong financial position, based on Ghana's rapidly expanding cocoa output and the high world price of cocoa, had been dissipated in a grasshopper's summer of waste, extravagance, corruption and prestige projects.'[25]

'Hoarders' and 'middlemen' were consistently criticised for driving up the prices of local food, yet state-backed marketers were particularly able to profit given the country's growing dependency on imports. GNTC storekeepers, for instance, were found to

[21] Rowena M. Lawson, 'The Distributive System in Ghana: A Review Article', *The Journal of Development Studies*, 3.2 (1967), 195–205 (p. 201).
[22] Lawson, p. 199; For the organisation of marketing in Kumasi see, Clark, *Onions*, pp. 42–47.
[23] Killick, p. 189.
[24] For an account of corruption under Nkrumah see, Herbert H. Werlin, 'The Consequences of Corruption: The Ghanaian Experience', *Political Science Quarterly*, 88.1 (1973), 71–85.
[25] Quoted in, Serra, 'Scattered Data', p. 215.

'encourage long queues' and 'privately dispose of some stocks to special customers for a consideration.'[26] Misallocation accompanied a period of dwindling cocoa revenues, when the population was asked to make sacrifices in the name of African socialism. As Victor Owosu bravely stated at the time, 'members of the new Ghanaian aristocracy and their hangers-on, who tell them to do this, are fast developing pot bellies and paunches and their wives and sweet-hearts double chins in direct proportion to the rate at which people tighten their belts.'[27]

ii. Cost of living crises and the cost of good nutrition

Swept into power with the 1948 cost of living crisis, Nkrumah lost his position under similar circumstances. Although his ousting, in a bloodless coup in February 1966, was not entirely due to the rapidly rising cost of living, it helps explains why he was not initially missed by many Ghanaians. Agricultural decline had seen food prices increase by around 10 percent year-on-year between 1960 and 1966. By the time of the coup, real incomes in Accra were worse than during the 1948 riot, and food supplies reached their lowest ebb thus far that century. This fall was only accentuated by memories of earlier affluence. Between 1952 and 1960, the real earnings of African employees had actually risen by 50 percent but then, eroded by inflation, they reached a trough in 1966. Government wages followed a similar pattern and the real value of the 1967 minimum wage was only 87 percent of its 1952 level. However, the period of CPP rule had different effects in the countryside and the town and, between 1952 and 1960, urban real incomes grew by around half while rural real incomes stagnated. Between 1960 and 1967, urban real incomes dropped considerably, whereas rural real incomes rose by 20 percent [Table 5.1].[28]

However, these general patterns did not necessarily present uniformly across either cities or rural areas. For instance, in order to feed Accra in 1965, 'it was decided that as a temporary measure, Regional Commissioners could help by instructing their District Commissioners to arrange foodstuffs buying centres in their Districts and organise the farmers to send their produce to such centres.' Since 'this matter is so <u>urgent</u>' the directors of the SFC, the UGFCC and each District Commissioner were entreated to give

[26] Ghana Government, *Report of the Commission of Enquiry into Trade Malpractices in Ghana* (Ghana: Ministry of Information, 1965), p. 29.
[27] Quoted in, T. Peter Omari, *Kwame Nkrumah: The Anatomy of an African Dictatorship* (London: C. Hurst & Co., 1970), p. 90.
[28] J.B. Knight, 'Rural-Urban Income Comparisons and Migration in Ghana', *Bulletin of the Oxford University Institute of Economics & Statistics*, 34.2 (1972), 199–228 (pp. 212–13).

it their 'personal attention.'[29] Accra was a touchstone of ferment, it absorbed the greatest amount of formal-sector employment and was the furthest removed from agrarian life. Given the role played by food in the riots which brought Nkrumah to power, a great deal of political capital was expended keeping Accra fed. Elsewhere, efforts were more reserved. In 1961, for instance, a 'drought the worst of its kind in recent times' was exacerbated by fires and profiteering and led to the 'acute famine which hit Kumasi.'[30] And, as we will see later, government resources were even less mobile in the Northern famine-prone areas.

Table 5.1: Urban and rural real income trends, 1952-1967
Source: Knight, p. 213.

Year (1952 = 100)	Average African earnings from employment	Government minimum wage	Cocoa income per rural household	Value of food production per rural household	Farm income per rural household
1952	100	100	100	100	100
1953	106	100	85	98	95
1954	110	100	86	98	95
1955	106	94	91	92	92
1956	120	107	100	94	95
1957	127	107	68	95	89
1958	129	112	80	96	92
1959	130	109	79	95	91
1960	149	124	101	97	98
1961	144	115	79	102	96
1962	146	110	77	112	103
1963	147	109	74	128	115
1964	139	102	89	143	130
1965	111	80	36	135	112
1966	109	73	37	136	113
1967	130	87	60	136	118
1967 (1960 = 100)	87	70	59	139	120

In the countryside, the general pattern may have been that farmers lost out from disinvestment in the early 1960s and benefitted from inflation in the later 1960s. Again, though, this was not uniform. The negative impacts of disinvestment were concentrated in the South, where investment had previously concentrated. By the same token, benefits

[29] PRAAD/T/NRG/8/37/5, Food Storage in Northern Region, 1962-66, Circular letter from F.A. Jantuah, Minister of Agriculture, 21/7/1965.
[30] PRAAD/K/ARG/2/1/61, Cost of living enquiry, 1960-61, J. Owusu, Chairman of the Kumasi Municipal Council, to O. Owusu–Afriyie, Ashanti Regional Commissioner, 22/6/1961.

in later years fell to those involved in the production and transportation of food. Since the sale of food had always been the primary source of income in the North, it may be for this reason that Northern heights increased more quickly during the 1960s. Whereas in the South, where nutrition was more dependent upon cash-crops, height increases were more muted [Figure 5.1]. In the North, cost of living increases were a concern in the towns and the perennially hungry upper reaches but far fewer people were regularly reliant on bought food. Urban communities in the North were also rarely entirely removed from rural life and cannot be thought of in the same respect as Accra. Indeed, the Committee on Price Stabilisation in the Northern Region concluded that food prices grew as a reaction 'to the high cost of controlled consumer goods … [and] to exorbitant rates of interest imposed by the pass-book holders especially on cotton prints, blue drills and khakis,' rather than as a result of food availability decline.[31] Even in the Upper Region, where consistent crop failures meant market prices held greater sway, nutrition indicators appear to have been improving. Although the two surveys are not entirely comparable, the average heights and weights of men and women increased markedly in the years between the Purcell survey and the National Nutrition Board Survey [Table 5.2].

Table 5.2: Upper Region anthropometric measures, 1939-41 and 1961/2 compared
Sources: PRAAD/A/ADM/11/1/1294, Purcell, 'Report'; Ghana Government, *The Nutrition of Adults in Northern Ghana: A Report of the National Nutrition Survey of the National Food and Nutrition Board* (Accra: Mimeo., 1962).

	No. examined		Av. Height (m)		Av. Weight (kg)		Av. BMI	
	Male	Female	Male	Female	Male	Female	Male	Female
1939-41	1,140	829	1.68	1.59	57.1	51.0	20.1	20.2
1961/2	926	994	1.71	1.62	59.3	52.4	20.2	20.0

Despite this, Northern bureaucrats – usually themselves part of an urban bourgeoisie – regularly complained of 'middlemen' buying at the farm gate, driving up prices and monopolising supply. Some even endorsed blocking and guarding feeder roads to interrupt such trade.[32] The Assistant Superintendent of Police in Wala South, for instance, 'suggested to members [of the district committee] that the most offensive part of the whole show is the women who go on the roads to buy and retail to the consumers.'[33] However, what officials seem to have been really bemoaning was the development of a form of market efficiency which saved producers both time and

[31] PRAAD/T/NRG/8/37/5, Food Storage in Northern Region, 1962-66, 'Findings of the Committee on Prize [sic] Stabilization in the Northern Region', 15/9/1965.
[32] PRAAD/T/NRG/8/37/5, Food Storage in Northern Region, 1962-66, 'Minutes of the Bimbilla District Store-keepers, bakers and foodstuffs traders with the District Commissioner', 14/1/1966.
[33] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, 'Distribution of food-stuffs, Wala South District Committee minutes', 29/7/1965.

transport costs, albeit potentially at the expense of market-reliant consumers at the centre. In most respects, food inflation in the 1960s seems to have contributed benefits and brought greater opportunity to an already broadening opportunity structure. These were advantages seized upon most readily by those communities with the least viable export agriculture, especially in the overpopulated north-east.[34] 'Comrade Ali Medchu', for instance, 'explained that the first day the [Wala South District] Committee went to the market it saw some guineafowls and other birds but now if you go to the market you will not get anything [at] all because the Zabramas and the Frafras have taken the delight to buy and transport them to the South but not to sell to us in the town, at the control price.'[35]

However, with food security buoyed by ties to the rural world and growing demands for food further south, by the early 1960s the dynamism of the Northern food economy appears to have been providing a better average standard of living for people in the town in comparison to those in the fields. Across three towns surveyed in the North, wage earners, the self-employed and petty traders were all seen to be heavier than farmers in their respective communities [Table 5.3]. Infant mortality rates were likewise better in urban areas in the North and South.[36] Hart gives substance to this change by explaining that the growth of provincial urbanism provided greater opportunity for those Northern poor impoverished by environmental disadvantage meaning that, 'as obstacles to migration are removed, it also becomes less necessary.'[37] Absenteeism in Bolgatanga, for instance, was much lower than rural 'Frafra' areas because those from the city were advantaged by their position straddling the urban-rural economy. Hart cites the joke, 'if you find a Bolga man working in the South, he must have been on a trading tip and gone broke.'[38]

[34] Hart, 'Opportunity'.
[35] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, 'Distribution of food-stuffs, Wala South District Committee minutes', 29/7/1965.
[36] S.K. Gaisie, 'Levels and Patterns of Infant and Child Mortality in Ghana', *Demography*, 12.1 (1975), 21–34 (p. 29).
[37] Hart, 'Informal', p. 332.
[38] Hart, 'Tallensi', p. 334.

Table 5.3: Weights by occupation, sex and age group in Northern towns (Damongo, Bolgatanga and Jirapa)
Source: Ghana Government, *The Nutrition of Adults in Northern Ghana.*

	Men									
	All		20-29 yrs		30-39 yrs		40-49 yrs		50-59 yrs	
	No.	Weight (kg)	No.	Weight (kg)	No.	Weight (kg)	No.	Weight (kg)	No.	Weight (kg)
Farmers	141	57.6	33	56.7	39	57.2	39	57.6	30	58.1
Wage-earners	61	59.4	30	59.4	18	61.7	9	58.1	4	53.5
Self-employed	263	59.4	98	58.5	110	60.8	44	59.4	11	57.6
Unemployed	44	55.8	23	56.2	10	57.6	7	54.9	4	51.3
	Women									
Housewives	572	52.2	175	52.6	191	51.7	83	51.3	123	51.3
Farmers	45	49.9	16	50.8	15	50.3	11	49.9	3	42.2
Petty traders	160	53.5	45	51.7	60	54.0	30	56.2	25	51.3

Given the continuing predominance of men in both rural-urban migration and in cash-crop production, especially in the South, rural women were predisposed to enjoy the improving terms of trade in food during the later 1960s. Almost all of the increase in the agricultural workforce between 1960 and 1970 was down to an increase in female labour. Where men's involvement in agriculture increased by 0.4 percent per year for these years, women's increased by 2.9 percent.[39] As the traditional arbiters of food production and distribution, rural women and their dependents were poised to benefit from the country's sharpening food deficit. Although the increasing cost of food was largely caused by marketing failures, demographic change and sectoral disinvestment, the state blamed the greed of 'hoarders' for accentuating and exploiting shortages. In reality, across most of Ghana, food hoarding was conspicuous by its absence, with traders going to considerable lengths to avoid effective ownership of foods which could easily spoil.[40] More often than not, these were specifically gendered attacks, with 'market mammies' and 'queen-mothers' expressly targeted.[41] As the food crisis rumbled into the 1970s, these complaints contained more force. In 1973, the Managing Director of the state-owned Food Distribution Corporation (FDC) requested that the Upper Region District Commissioner 'use your good office in stopping the market women from competing with

[39] Killick, pp. 77, 195.
[40] Gracia Clark, 'Food Traders and Food Security in Ghana', in *The Political Economy of African Famine*, ed. by Richard Erskine Downs, Donna O. Kerner, and Stephen P. Reyna (London: Gordon and Breach, 1991), pp. 227–56 (pp. 234–35).
[41] Ghana Government, *Trade Malpractices*, pp. 10–13.

us.'[42] These ideas lent legitimacy to the physical violence women suffered during attacks on markets in Accra, Sekondi, Koforidua and Kumasi in the wake of Rawling's 1979 June Revolution.[43]

Unlike food producers, those dependent on cocoa revenue appear to have suffered considerably during this period. 'Extorted' by trading firms and 'the ever present unscrupulous farmers', the average cocoa worker in 1960 Offinso, a rural district north of Kumasi, 'lives the mere bread-line existence … eats undernourished foods [and] is accommodated in backward environments.'[44] By 1966, cocoa income per rural household was less than 40 percent of the 1952 level in real terms [Table 5.1], with those reliant on waged employment first to suffer from any slowdown in cocoa production. In fact, Allen's early 1960s survey found that cash income in Dagomba villages to the north and east of Tamale 'compares favourably' with the income of labourers on cocoa farms further south.[45] Twenty-five years after the original survey of Akokoaso, the 1970 re-survey found the profitability of cocoa farming in swift decline, especially for small-scale or caretaker farmers. Absentee land-owners were said to be 'finding it more and more difficult to get crop share labourers on third share [*abusa*] basis and the system of dividing the crop into two parts is becoming more common.'[46] Others 'complained that they could no longer get good virgin forest,' that their cocoa was now too old and uneconomical, or that the expense of inputs had made capsid control an 'almost impossible battle.'[47] Wellbeing was increasingly defined along lines of deepening inequality. In 1933/4, 61 percent of cocoa farmers produced 21 percent of the crop and 6 percent of farmers produced 35 percent of the total. By 1970, 83 percent of farmers produced only 12 percent of the total, while the top 5 percent of farmers produced 49 percent.[48]

Ewusi found similar patterns in the cities too, with Gini coefficients rising by around 20 percent between 1956 and 1968.[49] As the cost of food rose, the poorest sections of town

[42] PRAAD/T/NRG/9/4/68: Ghana Food Distribution Corporation, 1972-73, Col. E.M Osei Owsu, Managing Director, Ghana Food Distribution Corporation, Accra, to Regional Commissioner, Upper Region, Bolgatanga, 28/3/1973, 'Purchase of tomatoes and rice in the upper region.'
[43] Claire Robertson, 'The Death of Makola and Other Tragedies', *Canadian Journal of African Studies*, 17.3 (1983), 469–95.
[44] PRAAD/K/ARG/2/1/61, Cost of living enquiry, 1960-61, Ashanti District Commissioner, 14/10/1960, 'Viewpoint from Offinso District, Ashanti.'
[45] Allan, p. 240.
[46] C. Okali and R.A. Kotey, *Akokoaso: A Resurvey* (Legon: University of Ghana, 1971), p. 43.
[47] Okali and Kotey, pp. 11, 17, 28.
[48] Okali and Kotey, pp. 18–19.
[49] Kodwo Ewusi, *The Distribution of Monetary Incomes in Ghana* (Legon: University of Ghana, 1971), p. 95.

society were left less able to enjoy a sufficient diet. This, however, coincided with a shift in the age-structure of urban communities, leaving infant nutrition increasingly determined by urban income. In 1967, 40 percent of the population of Madina, a poor peri-urban area north of Accra, which had not existed even ten years before, were under 15 years of age. One-fifth were under four.[50] By the time of Caldwell's 1963 demographic survey, long-term migration was the norm, with temporary or seasonal migrants making up only a quarter of the urban migrant community.[51] Families were no longer seen as a check on migration, and whole families began to move together. In Caldwell's survey, only one-sixth of married migrants travelled without their spouses.[52] Urban sex-ratios slowly evened out, a greater amount of female time was consumed by childcare and the relative value of domestic service declined [see Chapter 3 for earlier trends]. By the late 1960s, the female demographic advantage had clearly waned. Poverty, disease and malnutrition grew in peri-urban areas swollen with new arrivals. As Fiawoo's 1979 survey of the heights of Accra schoolchildren showed, the advantage enjoyed by the indigenous Ga and the relatively well-provided-for city-dwellers was no longer apparent only five to ten miles outside of the city centre.[53] In fact, peri-urban schoolgirls were, on average, five centimetres shorter than their counterparts in the city proper. Living 'within very primitive communities with the barest minimum of social amenities' the short stature of peri-urban children was seen to be 'a clear reflection of the effects of unsanitary surroundings, economic poverty, and gross illiteracy.'[54]

Moreover, during the 1960s and more-so in the 1970s, many trades previously dominated by female traders were modernised, centralised or made more capital-intensive, leading to a general decline in previously generous terms of trade.[55] Mirroring broader urban trends, by 1968 the top 10 percent of traders earned 43 percent of sectoral income, while the bottom 10 percent earned only 1.8 percent.[56] Trading, especially for Southern women, had become a 'natural' way to achieve a maternal ideal which depended more upon financial solubility than time spent caring for children.[57] However, government

[50] Nelson Otu Addo, Margaret Peil and A.K. Quarcoo, *Madina Survey: A Study of the Structure and Development of a Contemporary Sub-Urban Settlement* (Legon: University of Ghana, 1967), p. 39.
[51] Caldwell, *Rural-Urban*, p. 41.
[52] Caldwell, *Rural-Urban*, pp. 85, 127.
[53] Fiawoo.
[54] Fiawoo, pp. 311, 303.
[55] Robertson, *Sharing*, pp. 75–122; V. K. Nyanteng and G. J. Van Apeldoorn, *The Farmer and the Marketing of Foodstuffs* (Legon: University of Ghana, 1971), p. 48; J. North, *Women in National Development in Ghana* (Washington D.C.: USAID, 1975), p. 43.
[56] Kodwo Ewusi, *Economic Inequality in Ghana* (Legon: University of Ghana, 1977), p. 73.
[57] Gracia Clark, 'Mothering, Work, and Gender in Urban Asante Ideology and Practice', *American Anthropologist*, 101.4 (1999), 717–29.

retrenchment after the 1966 coup increased urban un- and under-employment, with the informal sector taking up much of the slack leading to increased male competition in previously female-dominated spaces.[58] In 1965 only 6 percent of school-leavers were without work after twelve months, by 1968/9 the figure was over 50 percent.[59] Women were slowly pushed to the margins of urban survival. In late-colonial Accra, Acquah found that the 'hard core of persons who habitually sleep out … are mainly Zabarimas (popularly called k*aaya kaaya*, which is a name used for people who carry loads).'[60] Here the *kaaya kaaya* – later known as the *kayayoo* – were particularly marginal men:

> 'During police raids in the town centres in September 1953, between forty to fifty people were picked up each night from market stalls open verandas and the beach. All were men. They were, almost without exception, *kaaya kaaya* men, some of whom were known ex-convicts.'[61]

In subsequent years, porterage has become ascribed almost exclusively to poor women and girls.[62]

The feminisation of rural-urban migration only became more pronounced into the 1970s, increasing pressures on the informal economy, lowering female economic agency and increasing the cost of children. The 'crisis fostering' of children whose parents could not afford to keep them became increasing common, leading some girls into a life of unfree labour.[63] Higher-risk forms of social reproduction led to changes in the epidimology of malnutrition. By the 1960s, some in the nutrition establishment 'estimate that there is more kwashiorkor among the children of the urban poor than is found even in the forest zone.'[64] In a 1967 paper, Fred Sai, the doyen of Ghanaian epidemiology, claimed that 'it is obvious that children in an urban situation fare nutritionally worse than children in the rural community.' With a 'disproportionate percentage of cases of protein-calorie malnutrition occur[ing] in [the] children of immigrants.'[65] Rickets, 'almost unknown in

[58] As Hart explains, an increase in informal employment was not necessarily bad for individuals, or for the broader urban economy. However, it seems unlikely that it benefitted women or their children. Hart, 'Informal'; For a similar pattern in the years following SAP see, Ragnhild Overå, 'When Men Do Women's Work: Structural Adjustment, Unemployment and Changing Gender Relations in the Informal Economy of Accra, Ghana', *The Journal of Modern African Studies*, 45.04 (2007), 539–563.
[59] Keith Bezanson, cited in Killick, p. 98.
[60] Acquah, p. 53.
[61] Acquah, p. 54.
[62] Seema Agarwal, *Bearing the Weight: The Kayayoo, Ghana's Working Girl Child* (Legon: University of Ghana, 1997).
[63] Roger Sanjek, 'Maid Servants and Market Women's Apprentices in Adabraka', in *At Work in Homes: Household Workers in World Perspective*, ed. by Roger Sanjek and Shellee Cohen (Washington, D.C.: American Anthropological Association, 1990), pp. 35–62.
[64] S.A. Boone, *Survey of Contemporary Ghana: Nutrition in Ghana* (Accra: Nutrition Research Unit, undated c. 1965), p. 7.
[65] Sai, 'Urban life', p. 137.

the rural parts of the tropics', was also 'becoming obvious' in cramped and dark shanty towns.[66] Pressured migrant domesticities were exacerbated by a lack of social capital:

> 'Breast-feeding, which is the rule in rural communities, is losing prestige among most townswomen … [but] immigrant women rapidly assume that to be the right thing to do … Where both the income and educational standards are low, inadequate formula feeds leads to undernutrition in the first year of life.'[67]

Concentrated at first amongst migrant and peri-urban communities, as the urban food situation grew worse into the 1970s, the increasing incidence of marasmus became a more pressing problem throughout Ghanaian towns.[68]

Bottle feeding was central to this development, facilitating new modes of social reproduction but influenced by educational disparities and fashion as well as by work requirements. A 1967 survey of mothers in an Accra nutrition clinic found that educated mothers were more likely to use bottle feeds earlier in their children's lives. Uneducated mothers continued exclusive breastfeeding until, on average, 6.8 months, 1.4 months longer than educated mothers. Similarly, only 25 percent of uneducated mothers introduced supplementary food before three months, compared to around 36 percent of educated mothers.[69] Still, educated mothers were more likely to bring their children to clinics more quickly, were more likely to provide nutritious supplementary food like legumes or eggs and were more likely to practice the hygienic feeding of supplementary foods. As a result, educated mothers experienced far lower rates of infant mortality.[70] Despite this, education was no panacea against malnutrition, instead granting greater exposure to the conflicting and often opaque nutritional science which swirled around the globalising city, with influences 'ranging from deliberate attempts of nutrition education to commercial food promotion and advertisements.'[71]

In Uganda, the then global centre of nutrition research, Hoorweg and McDowell found that 'between 25 and 30 percent of the variations in nutritional status or recovery of the children attending the outpatient clinics could be attributed to variations in knowledge

[66] Sai, 'Urban life', p. 137.
[67] Sai, 'Urban life', p. 137.
[68] Fred T. Sai, 'Nutrition in Ghana', in *Nutrition and National Policy*, ed. by Beverly Winikoff (Cambridge, Mass.: M.I.T. Press, 1978), pp. 81–107 (p. 97).
[69] Florence E. Dovlo, *A Study of Infant Feeding Practices in Accra*, FRI Research Bulletin (Accra: Food Research Institute, 1968), p. 5.
[70] Dovlo, pp. 9–10.
[71] Dovlo, p. 3.

and the attitudes of the mother.'[72] However, in Ghana as in Uganda, nutrition education was undermined by a conflicted medical apparatus which likely only added to public confusion regarding nutritional health. Commenting on the 'instant success' of a 1965 infant health integration scheme, Ofosu-Amaah notes that 'bottles ran out frequently … this augurs well for the introduction of either plastic or glass containers for which a small fee could be charged.'[73] Such support for bottle-feeding would only serve to antagonise a nutrition community which had begun to form a consensus against the promotion of artificial feeding. Perhaps unsurprisingly, Ofosu-Amahh found that 'from the beginning the demonstrations by the Nutrition Board Team were not welcome to the nursing staff because they thought their own nutrition teaching differed from that of the nutritionists and feared confusing the mothers.'[74] In Northern Ghana, too, the Regional Food and Nutrition Advisory Committee complained of conflicting advice given by Community Health Nurses.[75]

Although artificial feeding was becoming more useful and more popular it remained unaffordable for the vast majority of mothers. At around this time in Uganda, for instance, the amount of formula needed to entirely replace breast-milk for one child cost around a third of a labourer's salary.[76] The expense of milks and formulas necessitated its dilution, perhaps with unclean water and often until it contained a fraction of the nutritive value of breastmilk, foreshadowing the bouts of gastroenteritis and the epidemic of or diarrhoeal marasmus or 'commerciogenic malnutrition' which was most evident in Accra.[77] The situation was probably aggravated in Southern Ghana, where maternal breadwinning and employment outside of the home had long been naturalised as the ideal form of motherhood.[78] And aggravated again in the late 1960s, when the price of milk substitutes was highly inflated yet maternal employment was both more necessary and less profitable given informal sector competition. Milk grew into an economically valuable and socially charged commodity. The 1966 Commission of Enquiry into Trade Malpractices specifically highlights concerns over the cost and

[72] Jan Hoorweg and Ian McDowell, *Evaluation of Nutrition Education in Africa: Community Research in Uganda, 1971-1972* (The Hague: Mouton, 1979), p. 94.
[73] S. Ofosu-Amaah, 'The Maternal and Child Health Services in Ghana', *Ghana Medical Journal*, 6.2 (1967), 51–59 (p. 57).
[74] Ofosu-Amaah, p. 57.
[75] PRAAD/T/NRG 8/6/57, Ghana Food and Nutrition Board, 1964-1968, 'Minutes of First Meeting of Regional Food and Nutrition Advisory Committee', 4/2/1966, Regional Office, Tamale
[76] Bennett and Stanfield, 'The Clinical Conditions and Aetiology of Malnutrition in Uganda', p. 4.
[77] Jelliffe, 'Commerciogenic Malnutrition?'; Williams, *Milk*; Welbourn, 'Bottle Feeding'.
[78] Clark, 'Mothering'.

dilution of various milk brands.[79] Robertson also paints a scene in the late 1970s, when the urban market had all but collapsed yet a rare quantity of condensed milk was made available, doled out at control prices at one tin per woman. However, 'when it became apparent that there was not enough to go around, the orderly queue dissolved as old rivalries surfaced in loud arguments over who deserved a tin … a fight broke out between two irate traders.'[80]

The ascent of artificial feeding complemented the growth of cash-poverty during the First Republic. More children were being born into an increasingly competitive urban economy. The disadvantage suffered by Northern migrants was compounded by a lack of social capital, through linguistic isolation and localised infrastructural shortfalls. Corruption, on the other hand, concentrated food and nutrition security amongst those with the greatest social capital. Although the national food deficit may have supported the rural poor in food surplus areas, it was not enough to remedy rising national hunger. More importantly, thousands in the forest pulled back from cocoa production, stalling the economy further. In something of an indictment of Nkrumah's economic diversification, those furthest removed from food production and the trade in food were precariously placed in the increasingly divergent economy of the 1960s. In the 1961/2 survey, Davey found that male Northerners living in the gold mining town of Tarkwa weighed a healthy 61 kilos and 'compare very favourably' with their counterparts still living in the North, who averaged around 2 kilos less. However, young men left unemployed in Accra weighed only around 55 kilos, less even than those unemployed in the North and more than seven kilos below the Accra average.[81] As formal employment and urban food security fell over the course of the 1960s, life at home may have been the wiser choice, at least for some migrants.[82]

iii. The decline of famine relief

As we have already seen, food security varied vastly across the country. It varied due to ecology, due to the infrastructural deficits born from colonial underdevelopment, and even due to the political value of food solvency in a given population. However, after decades ignoring and often cheapening Northern hunger, in the 1940s the colonial government established fairly effective mechanisms to underpin food security across the colony. In the Upper Region, where feast and famine could be separated by only a

[79] Ghana Government, *Trade Malpractices*, p. 29.
[80] Robertson, 'Makola', p. 471.
[81] Cited in, Sai, 'Urban life', p. 138.
[82] This follows a similar pattern as that seen in Uganda. See, Nott.

number of miles, the colonial government's greatest direct contribution to famine relief was the extension of its bureaucracy through effective early warning systems and timely famine relief. Although extensive hunger seems to have only returned to Ghana in the years after the 1966 coup, efficient systems of famine prevention were allowed to crumble under Nkrumah, and often at the expense of the country's most vulnerable poor.[83]

During the 1950s, the Agricultural Department was made constantly aware of coming disaster in the North due to detailed monthly reports sent from regional administrators who, in turn, were advised by their districts. These reports noted variations in average rainfall and the price of staple foods at various markets and were used to avert several famines during the late 1950s.[84] However, by the early 1960s these reports appear to have stopped. Instead, famine relief was garnered through informal requests;

> 'It appears there will be shortage of food and water in the Northern and Upper Regions next year [1962]. *Though no figures are available* [my emphasis] to support this statement, the condition of crops in the fields particularly in parts of the Upper Region points to such a gloomy forecast.'[85]

Despite an obvious decline in efficiency, relief was still forthcoming, at least during the first half of the 1960s, and forewarnings were acted upon.[86] However, corruption misdirected limited state supplies. For instance, on requesting food aid for three boarding schools in his district, the Education Secretary for Western Gonja/Damongo wrote to complain that Regional Organiser of the Workers Brigade 'could only give me five bags of konkonte [cassava flour].' At the same time, 'a Workers Brigade Truck brought eleven bags of grains to one Mallan Issah's house … I cannot imagine why the Regional Organiser has considered one individual more than these three institutions.'[87] It is hard to say how much real suffering was seen during these years, it is likely that the breadth of CPP social services and growing returns from surplus food production outweighed the inefficiencies of state-led relief. However, the infrastructural decline

[83] This argument expands on the conclusions forwarded by Weiss and Grischow. See, Weiss; Jeff D. Grischow and Holger Weiss, 'Colonial Famine Relief and Development Policies: Towards an Environmental History of Northern Ghana', *Global Environment*, 2012, 50–97.
[84] Weiss, pp. 48–54.
[85] PRAAD/T/NRG/8/37/4: Food Shortage and Storage in the Northern Region 1959-62, Chief Agricultural Officer to Ministry of Agriculture, 'Food and water situation in the Northern and Upper Regions', 16/11/1961.
[86] Detailed in, PRAAD/T/NRG 8/37/4, Food Shortage and Storage in the Northern Region 1959-62; PRAAD/T/NRG 8/37/5, Food Storage in Northern Region, 1962-66.
[87] PRAAD/T/NRG 8/37/5, Food Storage in Northern Region, 1962-66, Education Secretary for Western Gonja/Damongo to the Secretary to the Regional Commissioner, Tamale, 'Sales of foodstuffs, Workers brigade, Damongo', 9/6/1962.

suggested here gives context to the coming hunger of the following decades and, as food became scarcer over the course of the 1960s, acute famines were allowed to fester.

By the late 1960s, as pockets of famine flared up throughout the Upper Region, effective measures to prevent or relieve famine had clearly broken down. In October 1966 it was apparent that, 'owing to the failure of the millet crop, there is a threat of famine in the Region during the dry period between January and the next planting season.'[88] Despite the early recognition of a coming crisis no proactive measures appear to have been put in place and, by the following March, hunger was quickly spreading. In Nakon, the poorest community surveyed by Purcell, one government investigation asked about the 'present state of the children' and was told 'in no uncertain terms that there are often entire days, or longer, when they have to go without any cooked meals at all.'[89] Conditions in two small hamlets between Nakon and the Sisili River were said to be 'even worse than those prevailing in Nakon.'[90] The 1969 famine in Kulumasa, a village north of Nangodi, provides an example of geospatial poverty exacerbated by the disinvestment and infrastructural decline of the 1960s. According to one report, 'Kulumasa was once a much larger, more important place … where there was once a thriving market, a few pathetic booths persist for local trading on a smaller scale.'[91] Kulumasa's descent into penury was, in part, due to its disease burden, especially the high-rate of onchocerciasis. However, in terms of immediate relief and long-term economic solvency, investigators found that the more pressing concern was that Kulumasa's geographic and economic marginalisation had not been addressed in recent years;

> 'While a Class Three road is marked on the latest road map of Northern Ghana, it does not, in fact, exist … it is doubtful is any vehicle could cross the river during the rains and the people are probably cut off from the main markets, hospital, etc. at this time.'[92]

Nkrumah was ousted in early 1966, prior to the famine in Nakon, and was three-years out of office by 1969. However, the roots of suffering in these areas are clearly historical. Although these problems stretch into the more distant past, the problems of the deeper past were at times either ignored or accentuated by the particularities of CPP governance.

[88] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, Circular letter from D.K. Ntosuoh, Regional Administrative Officer, 'Food shortage in the Upper Region', 15/10/1966.
[89] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, 'Conditions at Nakon U.R. March 1967,' anonymous.
[90] PRAAD/T/NRG/9/19/1, 'Conditions at Nakon.'
[91] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, T.M. McRae, R.A. Abbatey and Rev. G. Anoa, 'Report on Kulumasa', undated, c. March 1969.
[92] PRAAD/T/NRG/9/19/1, 'Report on Kulumasa.'

iv. Explaining improvements in nutrition: healthcare and nutritional medicine in the First Republic, c. 1957-1966

If food production stagnated, famine relief was less forthcoming and the cash economy was undermined how, then, do we explain the apparent improvement in average nutritional status into the 1970s? Perhaps, more than anything, it was due to the earnestness with which the CPP approached social problems in Ghana. As Nkrumah once claimed, 'we shall measure our progress by the improvement in the health of our people … the welfare of our people is our chief pride, and it is by this that (we) ask to be judged.'[93] In keeping with this idea, 36 percent of the inherited 1951 First Development Plan budget was allocated to social services, another 36 percent to infrastructure and only 9 percent to 'productive activities.'[94] The 1959 Second Development Plan continued along very similar lines, again prioritising 'social overhead capital' such as health, education and infrastructure in order to stimulate 'directly productive activities' like agriculture and, later, industry.[95] In 1961, hospital fees were abandoned and compulsory primary education was introduced. Healthcare in this period improved considerably, Accra's Korle Bu Hospital was expanded to welcome student-doctors from the long-awaited University of Ghana Medical School in 1962. Focus was also increasingly concentrated on preventative and rural medicine, and considerable effort went towards the expansion of health centres and the training of nurses.[96] With infrastructural improvements, such as the doubling of people served by piped water, an expanded feeder road network and vastly more doctors and nurses per capita, health outcomes improved significantly.[97] Still births and infant mortality declined steadily into the late 1960s, although with enduring North/South and rural/urban disparities.[98] Following the plan for industrialisation outlined in the 1963/4 Seven Year Plan, spending on social services and infrastructure declined in favour of productive expenditure. Even so, social services still received 32 percent of the budget and, since the whole budget was expanded, the dollar amount spent actually increased.[99] Health provisioning continued to improve

[93] Kwame Nkrumah, *Axioms of Kwame Nkrumah* (London: Panaf, 1969), p. 51.
[94] Rimmer, p. 62.
[95] Killick, pp. 44–45.
[96] See, for instance, Mary Opare and Judy E. Mill, 'The Evolution of Nursing Education in a Postindependence Context—Ghana from 1957 to 1970', *Western Journal of Nursing Research*, 22.8 (2000), 936–44.
[97] Ghana Government, *Seven-Year Plan*, p. 26.
[98] PRAAD/K/ARG/2/8/69, J.L.Q. van der Puije, Regional Senior Medical Officer, 'Ministry of Health, Annual Report for Ashanti, 1964', pp. 10-11; Gaisie; G.M.K. Kpedekpo, *Studies on Vital Registration Data from the Compulsory Registration Areas of Ghana, 1962-1967* (Legon: University of Ghana, 1970).
[99] Killick, pp. 53–54; Rimmer, pp. 85–86.

between 1960 and 1965 but had begun to slow, as had the provision of piped water and the extension of transport infrastructure.[100]

With regards nutrition specifically, economic advisors had stressed the importance of nutrition as early as the 1950s.[101] Around the same time, the colonial government brought in a Nutrition Officer to the Department of Health while simultaneously setting up a small council on nutrition headed by the Principle Secretary of the Ministry of Agriculture.[102] Nutrition made for populist politics in the Ghanaian context. In 1957, Fred Sai was asked to speak to a radio audience about malnutrition:

> The word 'kwashiorkor' came in very handily because it was known in the capital, and it was used on radio to explain what malnutrition really meant in emotional terms. Before the end of the day, I had been hauled before the Prime Minister to help find out how to go about attacking the problem.'[103]

With consultant help from the UN, in 1958 the Platt and Mayer nutrition survey was undertaken, with a much more extensive survey carried out in 1961-2 under the direction of an FAO agent, P.L.H. Davey, though this time under the auspices of the government.[104] The resulting National Nutrition Survey is notable for the time at which it was undertaken, as well as for its geographical and theoretical breadth. For instance, more than 3,000 adults were weighed and measured in Northern Ghana alone, extensive dietary surveys were undertaken and consumption data was compiled, as were the results of thorough medical examinations looking for signs of malnutrition in both adults and children.[105]

Despite political will and able assistance, the nutrition programme was marred by the same culture of corruption and engorged bureaucracy which undermined the broader health programme. The 1970 Konotey-Ahulu Committee investigation into the reimplementation of hospital fees later found that vast amounts of hospital property had gone missing. Accra's Korle Bu Hospital had alone lost 9,380 pieces of linen.[106] In 1959,

---

[100] Killick, pp. 74–75.
[101] Seers and Ross; Lewis.
[102] Sai, 'Nutrition in Ghana', p. 97.
[103] Sai, 'Nutrition in Ghana', p. 99.
[104] B.S. Platt and Jean Mayer, *Report of a Joint FAO/WHO Mission to Ghana* (Rome: WHO/FAO, 1959); F.T. Sai, P.L.H. Davey and P. Whitby, 'A National Food and Nutrition Survey Project', *Postgraduate Medical Journal*, 38.436 (1962), 112–20.
[105] Sadly, much of the detailed reportage which evidently resulted from this survey appears to have been lost. The Government never published the data and only one of the detailed mimeographed reports remains.
[106] F.I.D. Konotey-Ahulu, *Report of the Committee Appointed to Investigate Hospital Fees, 1970* (Accra: Government Printer, 1973).

the National Food and Nutrition Board was formed. However its first head, a previous Minister of Agriculture, 'found it necessary to create a food and nutrition empire':

> 'With little concern for procedures, he recruited well over 100 officers in a few weeks with no job specifications … Cars were purchased in curious circumstances. Before this show got on the road, the president found out about it and the new recruits were sacked, the cars impounded. The minister was removed.'[107]

In 1963 'an effort at resuscitation was made … but the rot had already set in.'[108] While the initial vigour of the nutrition programme was brought short in the following years it did steadily expand. By 1959, nutrition and food science was featured in the national primary school syllabus and the main aim of health education programmes, such as the Northern Region Health Education Project, was 'to improve upon the methods of preparation and use of the local foods, the feeding of children by expectant and nursing mothers so as to prevent malnutrition, korshiorkor (sic), anaemia etc.'[109] Even in the farthest reaches, it was said that 'the importance of a balanced diet is commonly understood by the public nowadays.'[110] By 1962, the University of Ghana had opened a Department of Biochemistry, Nutrition and Food Science and, by 1974, there were over 100 domestically trained graduates in nutrition and home science across Ghana.[111]

Under Nkrumah, the social services which had been improving during colonial rule were expanded and reoriented with a tighter focus on the Ghanaian context. The public were better able to recognise and avoid nutritional illness and the medical system was better able to treat it. Though occasionally peddling conflicting information, the medical establishment made significant inroads against nutritional illness caused by taboo, problematic feeding and short birth spacing. Infant mortality declined as family planning was encouraged and made more readily available. The growing importance of food crops in the rural economy meant that female agency also improved. In these respects, CPP rule promoted many of the social determinants of better health.[112]

---

[107] Sai, 'Nutrition in Ghana', p. 101.
[108] Sai, 'Nutrition in Ghana', p. 101.
[109] PRAAD/T/NRG/8/13/29, Child Welfare Clinic, Tamale, 1954-1963, 'Primary School Hygiene Syllabus'; PRAAD/T/NRG/8/13/40, Health Education, 1959-1965, 'Northern Region Health Education Project Report, 22nd March 1960
[110] PRAAD/T/NRG/8/13/29, Child Welfare Clinic, Tamale, 1954-1963, C.S. Hoffman, Medical Officer, Wa, to Principle Medical Officer, Ministry of Health, Tamale, 20/7/1959, 'Recommendations to improve supplies of fresh fruit to the population of Northern Ghana without financial help from the government.'
[111] W.B. Morgan, 'Food Imports of West Africa', *Economic Geography*, 39.4 (1963), 351–62 (p. 358); Sai, 'Nutrition in Ghana', p. 98.
[112] Caldwell, 'Routes'.

b. *Food, famine and market collapse, c. 1966-1983*

i. *Explaining the return of famine, c. 1966-1972*

In February 1966, the National Liberation Council (NLC) took control of Ghana in a bloodless military coup and set out to progressively reverse the economic centralisation of the CCP years. As an African patriot Nkurmah has been fondly remembered but, as a premier, his rule 'left behind a legacy of economic decline, with a fragile external sector, heavy debts, a delicate fiscal structure, an export sector in which the seeds of destruction had already been sown and state sector industries that were to become a long-term liability.'[113] To deal with its rising national debt, and in lieu of raising taxes, the incoming NLC drastically reduced recurring public expenditure, introduced school fees and enforced freezes on public sector recruitment. The NLC also signed up to IMF advice which included reducing import and export tariffs and devaluing the cedi.[114] The University of Ghana's first African professor, Kofi Busia, and his Progress Party (PP) won the 1969 election to begin the Second Republic, carrying on the NLC's programme of liberalisation. However, Busia's fiscal mismanagement – which in some respects aped Nkrumah's modernisation programme – continued the previous problems of inflation and rising overseas debt. Again heeding Western advice, Busia implemented another large currency devaluation. The Second Republic, which was growing increasingly unpopular, was aborted by the military in January 1972, the same month the devaluation became effective.[115]

As was the case in the years after economic liberalisation in the late 1980s [Chapter 7], economic reforms which were palatable to external investors had troubling social consequences which only fermented the PP's unpopularity. As Goldsworthy explains in his 'post-mortem' of the Second Republic;

> 'In the villages … what people noticed about government policy were not the long-term plans—for roads, piped water, electrification and so on— but rather the short-term intensifications of hardship: the rising prices, the imposition of fees for medical treatment at country clinics, the re-imposition of the school fees abolished by Nkrumah.'[116]

With regards to nutrition, many of the problems emergent in the last years of CPP rule continued under the NLC/PP governorship. Cocoa farmers were paid chits instead of

[113] Frimpong-Ansah, p. 97.
[114] For an interesting collection of sources detailing IMF involvement in 1966-9 see Eboe Hutchful, *The IMF and Ghana: The Confidential Record* (London: Zed, 1987).
[115] Frimpong-Ansah, pp. 99–108.
[116] David Goldsworthy, 'Ghana's Second Republic: A Post-Mortem', *African Affairs*, 72.286 (1973), 8–25 (p. 14).

cash for produce which continued to decline in price anyway. The agricultural programme failed to perform, as did the 'emergency task force' established to correct the maldistribution food. Food prices continued to rise in the cities. As the edifices of the Nkrumah state were peeled away, the civil service was given greater responsibility but with a smaller budget and, after 568 civil servants were removed from their positions, far fewer agents.[117] It is probably fair to assume that, under Busia, the spatial and social patterns of malnutrition remained fairly consistent.

However, the causes of food insecurity which had emerged under Nkrumah were entrenched under NLC/PP rule, only now with a fiscal policy which also undermined relief. Perhaps unsurprisingly, famine, in the crude sense of excess mortality as a result of frank starvation, reappeared as acute if highly localised crises in the last years of the 1960s. Beginning in Nakon, in the Upper Region, in March 1967, epidemic hunger spread significantly into 1969. The after-the-fact approach to famine relief first seen under Nkrumah continued. In late April 1967, Accra was informed that 'the famine and its subsequent implications have extended beyond Nakon and its surrounding villages and further investigations ordered by the Upper Regional Committee of Administration have revealed many large pockets of famine stricken areas due to crop failure.'[118] In March 1967, when state investigations began in Nakon, the area's average BMI indicated moderate to mild underweight throughout the community. The following month, as investigators reached Arabie, average BMIs suggested that conditions had declined and that the majority of the community was severely underweight according to modern standards [Table 5.4]. Though 'not a famine-stricken area *stricktu sensu* [sic],' the related spike in poverty also played on ethnic divisions and violence flared between the Kusasi and Mamprusi living in Zabugu. Several fatalities resulted and perhaps one hundred people were made homeless due to fires set following a dispute over a piece of land.[119] It has been suggested that similar ethnic-economic tensions played a role in the 1994/5 'Guinea Fowl War' which accompanied the shift to Structural Adjustment.[120] By June, it was reported that 'the Navrongo War Memorial Hospital is flooded with children suffering

[117] Victor T. Le Vine, 'Autopsy on a Régime: Ghana's Civilian Interregnum 1969–72', *The Journal of Modern African Studies*, 25.01 (1987), 169–178.
[118] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, K.G. Asimenu, Acting Regional Administrative Officer to Principle Secretary, Ministry of Labour and Social Welfare, Accra, 'Famine and Ill-health at Nakong and its surrounding villages', 26/4/1967.
[119] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, V.A. Yetumy, Assistant Community Development Officer, to the Principle Community Development Officer, Bolgatanga, 'A Report of the Social Survey of Zabugu Conflagration and its Victims Relief Programme,' 12/5/1967.
[120] Jay Oelbaum, *Spatial Poverty Traps and Ethnic Conflict Traps: Lessons from Northern Ghana's 'Blood Yams'* (London: Overseas Development Institute, 2010).

from infantile diseases which have emanated from inadequate diets.'[121] In August the administration in Bolgatanga telegrammed Accra to advise that 'food commodities donated by Catholic Relief Service [CRS] not yet received at this end. Famine situation remains unchanged … please treat urgent.'[122] Despite this, as late as December it was said that 'one can hardly get a bag of early millet' for even heavily inflated prices.[123]

Table 5.4: Anthropometric data from Nakon and Arabie, Upper Region, during the 1967 famine
Source: PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, 'Conditions at Nakon U.R. March 1967,' anonymous; 'Conditions at Adabeya (Arabie) April, 1967,' anonymous.

		Nakon		Arabie	
		No. measured	Average BMI	No. measured	Average BMI
Female	≤16 yrs	14	16.41	9	15.10
	>16 yrs	13	18.30	-	-
	All	27	17.15	9	15.10
Male	≤16 yrs	14	16.55	14	15.65
	>16 yrs	7	17.84	2	17.49
	All	21	16.98	16	15.88
Total		48	17.07	25	15.60

In a foreshadowing of later patterns, the vastly underfunded and recently depopulated civil service began to outsource famine relief. Where, under Nkrumah, inefficient state-owned organs of distribution and production were responsible for the movement of food to famine areas, under the NLC and PP relief began to be drawn from ineffective national and international charities. Although famine relief for Nakon arrived fairly shortly, it was largely garnered through donations and, even then, 'those who enjoyed this first meal of free food were about 100, half of whom were living skeletons.'[124] The following year, the government entreated the Christian Council of Ghana to provide relief to 'save the souls of the fast-dying people' of Arabie and Nakon.[125] In 1969, the administration again implored the Christian Council to 'kindly use your good office, as a matter of urgency, to supply us with any quantity of food items and used clothings for … the hunger-stricken

[121] PRAAD/T/NRG/9/19/2, Food shortage in the Upper Region, 1969-1970, A.B. Salih, District Administrative Officer, Navrongo, to the Regional Chief Executive, Upper Region, 14/7/1969.
[122] PRAAD/T/NRG/9/19/2, Food shortage in the Upper Region, 1969-1970, Upterritory Bolgatanga to Principal Secretary, Ministry of Economic Affairs, Accra, 22/8/1969.
[123] PRAAD/T/NRG/9/19/2, Food shortage in the Upper Region, 1969-1970, Adam Zangbeo, Bawku-Naba, to the Chairman, Regional Administration, Upper Region, 'Shortage of Grains in the District', 2/12/1969.
[124] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, M.A. Larkai, Principle Community Development Officer, 'Progress report – famine village of Nakong', 13/3/1967.
[125] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, W.H. Koomson, Principle Community Development Officer and Regional Head of Department to the Christian Council Representative, Tamale, 'Famine at Arabi and Nankon', 20/6/1968.

and blind people of Kulumasa.'[126] In these years, hunger expanded from isolated flash-points to extend across the Upper Region, apparently exceeding the reaches of governmental or even in-country control:

> 'There are at present, pockets of famine in certain parts of the Upper Region, while other parts face serious threat of famine … In its effort to meet the situation, the Regional Committee of Administration has issued an appeal to the Government and other Relief Agencies in Ghana viz USAID, Christian Service Committee.'[127]

It is probably unfair to pin the famines of the late 1960s entirely on NLC/PP governance, the failings of Nkrumah, or colonial underdevelopment. Indeed, it is a sad irony of African history that the first decades of the postcolonial period coincided with the beginnings of 'a drought of unprecedented severity in recorded history.'[128] Although, rainfall across the Volta basin was more stable in the 1960s than the 1970s and 1980s, environmental conditions began to worsen in the late 1960s.[129]

However, climate should not be used to negate more temporal failings, with drought only exacerbating a pattern of political and economic neglect and the return of hunger to pre-1940s levels. By June 1969, missionaries teaching in Navrongo wrote to explain that;

> 'The situation is a present hunger, sufficient in one district near here to force people to leave their homes … A middle school headmaster in a village one of our staff visited last week said that he had never known his people forced to move in forty years.'[130]

The teachers had 'little doubt that others who have their eyes open will be trying to reach official sources of help.' Indeed they were, one administrator from Navrongo had written to Bolgatanga to suggest that 'the Ministry of Social Welfare should be made to handle this matter.'[131] However government aid remained unforthcoming. One of the teachers noted that 'when I saw Mr. Koomson of Bolgatanaga Social Welfare Office he

[126] PRAAD/T/NRG/9/19/1, Food shortage in the Upper Region, 1964-1969, W.H. Koomson, Principle Community Development Officer and Regional Head of Department, to the Regional Representative, Christian Service Centre, Tamale, 'Famine at Kulumasa', 8/3/1969.
[127] PRAAD/T/NRG/9/19/2, Food shortage in the Upper Region, 1969-1970, Circular from I.B. Ashun, Regional Chief Executive, Upper Region, 'Threat of Famine – Upper Region', 16/7/1969.
[128] Ning Zeng, 'Drought in the Sahel', *Science*, 302.5647 (2003), 999–1000 (p. 999).
[129] I. Masih and others, 'A Review of Droughts on the African Continent: A Geospatial and Long-Term Perspective', *Hydrol. Earth Syst. Sci.*, 18.9 (2014), 3635–49; Raymond Kasei, Bernd Diekkrüger and Constanze Leemhuis, 'Drought Frequency in the Volta Basin of West Africa', *Sustainability Science*, 5.1 (2009), 89–97.
[130] PRAAD/T/NRG/9/19/2, Food shortage in the Upper Region, 1969-1970, Judith and Chris [surname unknown, Navrongo School head teachers] to Carol [surname unknown], 23/6/1969.
[131] PRAAD/T/NRG/9/19/2, Food shortage in the Upper Region, 1969-1970, A.B. Salih, District Administrative Officer, Navrongo, to the Regional Chief Executive, Upper Region, 14/7/1969.

said the need was great, but the trouble was lack of funds.'[132] It is also not that Mr. Koomson had not been trying, he was at least the officer that wrote to the Christian Council, three months before.

ii. *Feeding economic isolationism: the final failure of independence agriculture, c. 1972-1983*

Under Busia, Ghana's food deficit had only continued to grow. The amount of land under staple crops and the total output of these crops dropped significantly over the course of the 1960s. The years between 1963 and 1971 had seen a 38 percent increase in food imports, with a 96 percent increase since 1955.[133] The civil service and the military were amongst those most affected by steadily rising food prices as well as the loss of supplementary benefits. Spurred partly by this loss of earnings, Colonel Achempong and the National Redemption Council (NRC) overthrew Busia in a 1972, instigating a government which would last until 1978. On taking office, Achempong cited the country's worsening food situation as a justification for their suspension of democracy:

> 'The principle of "one man, one vote" is meaningless unless it is linked up with the principle of "one man, one bread." A government which operates on the basis of ten men, one bread for the broad masses of the people is unjust and unjust rulers do not deserve to be sustained by any theoretical conceptions of democracy.'[134]

On these foundations, agricultural reform became the cornerstone of an Nkrumah-inflected, populist, anti-austerity agenda that sought to reverse the economic liberalisation of the NLC/PP governments. The IMF stabilisation programme was abandoned, the cedi was revalued upwards and import licences and foreign exchange regulations were re-instituted. Dramatically, the NRC repudiated all of the debts incurred by previous governments, effectively shutting itself off from overseas loans and foreign aid. With limited access to credit, imports had to be paid for in advance and reduced to the bare minimum. As a result, the NRC and the Bank of Ghana agreed that state-support of industrialisation and economic development could not be considered for several years. Given Ghana's reliance on food imports, agricultural reform was both pragmatic and absolutely necessary given this policy trajectory. This started what

[132] PRAAD/T/NRG/9/19/2, Letter from Navrongo School head teachers.
[133] R. Orraca-Tetteh, 'Effects of Rapid Population Growth in Ghana on Nutritional Needs', in *Symposium on Implications of Population Trends for Policy Measures in West Africa*, ed. by N.O. Addo and others, Ghana Population Studies No. 3 (Legon: University of Ghana, 1971), pp. 57–68.
[134] I.K. Acheampong, *Two Years in Office of Colonel Ignatius Kutu Acheampong, 13th January 1972-12th January 1974* (Accra: Office of the Press Secretary to the National Redemption Council, 1974), pp. 9–10.

Frimpong-Ansah describes as perhaps the only period 'outside the war emergency, when public policy focused on actively promoting the food sector.'[135]

The resulting programme – christened Operation Feed Yourself (OFY) – was imagined as 'a landmark in our struggle for economic emancipation,' a green revolution which could reinstall pride in rural work and stem the trend of 'young school leavers who should go into farming … flocking into the cities to look for white-collar jobs – a legacy of our colonial past.'[136] OFY and the NRC's broader manifesto was well received throughout the country and, for several years, OFY seemed to be working. Production surged and, according to Boahen, 'by the end of 1974, Ghana had indeed become a more united country than ever before and national pride and confidence has been restored. Agriculture was in full bloom and the Northern and Brong Ahafo regions appeared to have been well set on the road to becoming the granaries of the country.'[137] However, despite early successes, Achempong's programme to provide 'one man, one bread' was a resounding failure. In the years after 1975, cost of living spiralled, with the price of local food increasing even more rapidly [Table 5.5]. The FAO production index suggests that general agricultural production increased by 16 percent between 1969 and 1980 but declined by 15 percent on a per capita basis.[138] However, the World Bank's influential Berg report found that even the total production of both food and non-food fell between 1969 and 1979.[139] Hunger returned more forcefully to larger parts of the North and malnutrition reached epidemic proportions in the South as the health system collapsed. In Ghana today, Achempong is judged to be the worst of its despots. As Boahen concludes, 'his was the worst reign – one of disaster, deprivation, degeneration and stagnation, if not retrogression – that this country has ever known.'[140] How, though, did an administration dedicated to the reinvigoration of the agricultural sector lead instead to its total collapse?

---

[135] Frimpong-Ansah, p. 109.

[136] F.G. Bernasko, 'Opening Address: Ghana's Operation Feed Yourself Programme', in *Food and Population: Ghana's Operation Feed Yourself Programme -a Case Study, Report of the 26th Annual New Year School of the Institute of Adult Education, 30 December 1974-8 January 1975*, ed. by Institute of Adult Education, University of Ghana (Legon: University of Ghana, 1975), p. 20.

[137] Albert Adu Boahen, *The Ghanaian Sphinx: reflections on the contemporary history of Ghana 1972-1987* (Accra: Ghana Academy of Arts and Sciences, 1989), pp. 8–9.

[138] FAO, *FAO Production Yearbook* (Rome: FAO, 1980), pp. 75–80.

[139] Elliot Berg, *Accelerated Development in Sub-Saharan Africa: An Agenda for Action* (Washington, D.C.: World Bank, 1981), pp. 1–217 (p. 50).

[140] Boahen, p. 19.

Table 5.5: Economic indicators of decline, 1965-1981
Source: Based on Jon Kraus, 'The Political Economy of Agrarian Regression in Ghana', in *Africa's Agrarian Crisis: The Roots of Famine*, ed. by Stephen K. Commins, Michael F. Lofchie, and Rhys Payne (Boulder, CO: Lynne Rienner, 1986), p. 105.

Year	Average national consumer price index (1963 = 100)	Rate of inflation (%)	Local food prices index	Local food inflation (%)	Nominal government minimum wage (cedis)	Real minimum wage index (1963 = 100)
1965	151.3	26.2	172.0	37	0.65	66.4
1966	171.4	13.5	199.0	15.7	0.65	58.3
1967	156.9	-8.5	169.5	-14.8	0.70	68.6
1968	169.7	8.2	184.3	8.7	0.75	67.9
1969	181.8	7.1	200.1	8.6	0.75	63.5
1970	188.5	3.7	210.0	4.4	0.75	61.2
1971	206.0	9.3	236.1	12.4	0.75	56.0
1972	226.7	10.0	259.4	9.9	1.00	68.1
1973	266.4	17.5	313.4	20.8	1.00	57.1
Jun-74	-	-	-	-	1.29	62.1
Jul-74	315.3	18.4	362.7	15.7	2.00	92.9
1975	408.9	29.7	473.6	30.6	2.00	75.2
1976	639.3	53.3	805.6	70.1	2.00	48.1
1977	1,382.5	116.3	2,033.8	152.5	4.00	44.5
1978	2,401.4	73.7	3,241.9	59.4	4.00	25.6
1979	3,695.4	53.9	5,241.1	61.7	4.00	16.7
1980	5,546.5	50.1	7,982.7	52.3	12.00	33.3
1981	-	116.0	-	-	-	-

In many respects, OFY followed in Nkrumah's agricultural missteps, only the NRC paced further. For instance, in the first years of the programme a considerable amount of government capital was invested into large-scale operations which proved as inefficient under Achempong as they had been under Nrkumah. In 1967, the NLC had reduced state involvement in agriculture, cutting the number of SFC farms from 123 to 62, dissolving the UGFCC and moving its agricultural machinery to the Ministry of Agriculture's extension division. However, under OFY state-owned farms were reinvested in.[141] The Food Production Corporation (FPC) – which had grown out of the Agricultural Wing of the Worker's Brigade – received around half of OFY's corporation loans in 1972 and around a quarter again the following year.[142] However, poor repayment performances and a practice of misapplying funds earmarked for agricultural inputs prompted the

[141] Felix I. Nweke, 'Direct Governmental Production in Agriculture in Ghana: Consequences for Food Production and Consumption, 1960–1966 and 1967–1975', *Food Policy*, 3.3 (1978), 202–8 (p. 205).
[142] Janet Girdner and others, 'Ghana's Agricultural Food Policy: Operation Feed Yourself', *Food Policy*, 5.1 (1980), 14–25 (p. 18).

Agricultural Development Bank (ADB) to discontinue the granting of loans to these corporations. Almost immediately the ADB complained that;

> 'It was a common practice of these corporations to divert such funds to the payment of old debts, personal allowances, salaries, and the acquisition of other capital items not having any immediate bearing on production.'[143]

As under the CPP, questionable management impacted on yields, which were generally below the country-wide average.[144] Targeted acreages declined by as much as half over the course of the programme, implying that 'either the government has reduced its goals in line with reality, or is embarrassed at its apparent inability to meet a realistic goal which it set for itself.'[145] Although research into agriculture was greater under OFY than it was under the CPP, it emphasised commercial and forest crops. Despite producing the majority of the country's staple foods, the savannah zone received only 20 percent of the food crop research projects. By contrast, the forest zone received 53 percent of food-crop research projects.[146]

At the same time that state production was underperforming, the government was expanding its monopoly on distribution, which was still considerably less efficient than non-state distributors. Even in the early 1970s, when OFY was seeing some progress, organisations obliged to buy from the FDC, like schools and colleges, complained that the FDC provides a 'disappointingly meagre quantity of foodstuffs at cut throat prices.'[147] The headmaster of Bawku secondary school found FDC prices 'much higher than prices initially charged by former food suppliers' and worried of coming food deficiets if prices were to increase in the lean season.[148] Though the government recognised a 'crisis of confidence' in government distribution C.D. Benni, the Commissioner for Information, thought that 'our countrymen are not suited to the idea of 'suffering a little' or bearing

[143] Quoted in, Girdner and others, p. 18.
[144] Nweke, 'Governmental Production', p. 205.
[145] Girdner and others, p. 18.
[146] Felix I. Nweke, 'The Organisation of Agricultural Research in Ghana: Priorities, Problems, Implications for Domestic Food Production and Policy Issues', *Agricultural Administration*, 6.1 (1979), 19–29.
[147] PRAAD/T/NRG/9/4/68, Ghana Food Distribution Corporation, 1972-73, S.A. Mumuni, Principle, Kanton Training College, Tumu, Upper Region, to the Regional Administrative Officer, Bolgatanga, Upper Region, 15/12/1972, 'Operations of the Food Development Corporation in the Region.'
[148] PRAAD/T/NRG/9/4/68, Ghana Food Distribution Corporation, R.A. Ajene, Headmaster, Bawku Secondary School, Bawku, Upper Region, to the Regional Administrative Officer, Bolgatanga, Upper Region, 15/12/1972, 'Operations of the Food Development Corporation in the Region.'

temporary inconveniences' and that 'it would not be right to tell Ghanaians and the world at large about these shortages which have become a perennial problem.'[149]

Where capital was made available for private agriculture, it was generally concentrated amongst a new form of 'progressive' farmer. According to Col. F.G. Bernasko, the NRC's Commissioner for Agriculture,

> 'Operation Feed Yourself programme (through incentives such as credit facilities, technical advisory services, land clearing as well as harvesting services) has opened the way for many Ghanaians in the top stratum of society to go into farming. Did anyone ever imagine that eminent lawyers, doctors, senior army and police offers, university lecturers, top civil servants and company managers would ever engage in crop and livestock farming? Again, chiefs in the country are making arming lands available to prospective farmers in amounts (that is, acreages) never before thought possible. Such lands are now being given more and more to people of other ethnic groups, people who but a short while ago were referred to as "foreigners."'[150]

By putting agricultural extension in the hands of an already relatively affluent bourgeoisie, OFY's financing of private agriculture did nothing to expand food security or production capacity for peasant farmers. Instead, OFY's funding structure refined previous patterns of inequality and food insecurity, especially considering that most large-scale food farms were actually producing for export.[151]

The promotion of 'foreigner' or 'stranger' farmers also had troubling effects, especially in the North. As Goody has explained with specific reference to rice farming around Tamale, those able to invest in mechanised, commercial food cropping which used high-yielding grain represented a particular and privileged minority.[152] What resulted were increasingly inequitable opportunities to cultivate the limited amount of land in shallow river valleys which was appropriate for rice cropping. The large-scale, shifting cultivation of perhaps several hundreds of acres rendered land quickly worthless in the medium term, moving cultivation further from the marketplace. Since government loans could only be granted if land ownership was properly documented, the literate Northern elite were able to exploit the educational backwardness of the North, utilising literacy to secure land rights in a bureaucratic system which 'clearly places the unschooled at a very definite

[149] PRAAD/K/ARG/2/8/111, Ministry of Agriculture, 1973-74, C.D. Benni, Commissioner for Information, to F.G. Bernasko, Commissioner for Agriculture, 10/5/1973, 'Complaints about rising food prices'; PRAAD/K/ARG/2/12/17, Operation Feed Yourself, First Phase (Vol. 1), 1972-73, D.K. Addo, Commissioner for Agriculture, to all Regional Commissioner, 19/10/1972, 'Movement of foodstuffs around the regions.'

[150] Bernasko, p. 23.

[151] Girdner and others, p. 20.

[152] Jack Goody, 'Rice-burning'; Rice farming is discussed extensively in Konings, *The State*, pp. 140–236.

disadvantage and turns them from non-literates into illiterates.'[153] Initially 'progressive' farmers were mainly Dagomba, residents of urban areas such as Tamale or Yendi. Most were artisans affiliated with the colonial government or were members of the UGFCC, most retained jobs in trade or government. However, since 1973, more Southerners, mainly army officers and civil servants, joined as absentee farmers under the patronage of the NRC.[154] The uneven and occasionally ill-gotten advantages enjoyed by these elites were quite evident to the local poor. The response of whom was the spontaneous burning of rice fields which, according to Goody, represented 'a reaction against the development of inequality, the kind of inequality that derives from the green revolution.'[155] What was left behind was a 'dual agrarian system' which concentrated the bulk of investment on a small cadre of farmers, spreading investment capital thinly over a much greater number of peasant growers.[156]

The multi-decadal drought which began in the late 1960s also only grew in severity throughout the 1970s.[157] However, government policy did little to ameliorate climatic conditions, especially in land-poor areas, and the sporadic bouts of famine which had re-emerged in the late 1960s only became more severe under Acheampong, with the first named postcolonial famines occurring in Kusasi in 1974 and 1977.[158] Although rice farming concentrated capital away from peasants it did bring new cash-earning possibilities for the Northern Region, where land was still relatively abundant. However, agricultural investment was almost entirely absent from the Upper Region, where only two small valleys were found suitable for rice farming and two irrigation schemes were installed, with limited regional impact.[159] According to Shepherd, the reorientation of the Northern economy under the NRC represented 'an unmitigated disaster' for Upper Region peasants, with 'uneven development' a neglectful conspiracy which allowed

[153] Girdner and others, pp. 19–20; Jack Goody, 'Rice-burning', p. 146; See also, Hawkins, *Writing*.
[154] Andrew Shepherd, 'Agrarian Change in Northern Ghana: Public Investment, Capitalist Farming and Famine', in *Rural Development in Tropical Africa*, ed. by Judith Heyer, Pepe Roberts, and Gavin Williams (London: Palgrave Macmillan, 1981), pp. 168–92 (p. 173).
[155] Jack Goody, 'Rice-burning', p. 149.
[156] Shepherd, p. 174.
[157] E. Ofori-Sarpong, *Impact of Drought in Ghana and Upper Volta, 1970-1977* (Legon: University of Ghana, 1980); For the climate history of Ghana and West Africa see, T.M. Shanahan and others, 'Atlantic Forcing of Persistent Drought in West Africa', *Science*, 324.5925 (2009), 377–80; Kasei, Diekkrüger and Leemhuis.
[158] These were bad years for record-keeping. The almost universal absence of archival sources from the 1970s and early 1980s makes it difficult to verify these claims or assess the extent of this hunger. However, writing in the late 1970s, there is no reason to doubt Shepherd's narrative for these years. See, Shepherd, p. 182.
[159] Even these Konings denounces as 'a veritable colonial cheap labour policy in a post-colonial guise.' Konings, *The State*, p. 327.

famine to once again 'proletarianise a substantial number of north-easterners.'[160] During the 1970s, labour and any surplus food flowed out of land-short areas in order to feed the hungry at home and growing markets in Bolgatanga and the Northern Region. In June 1977, for instance, in the midst of acute famine, about a thousand bags of produce were transported from Bawku to Bolgatanga each day. The ban on exports put in place by the Bawku District Chief Executive was overruled by the Regional Commissioner, who conceded only a nominal one cedi tax per bag. By August there was plenty of food available in Bolgatanga, if at inflated prices, but little in Bawku.[161] Government relief was also not forthcoming, instead the presence of hunger was officially denied and relief restricted. In Kusasi, between 55 and 80 percent of children were reported as underweight by July 1977, compared with 35 percent in July 1973.[162] Poor rains and poor governance brought hunger to a great many during these years. Crop failures were more widespread than usual and modern relief less forthcoming. Traditional insurances had been undermined by steadily mounting population pressures and the country-wide decline in cash-employment will have been keenly felt.

Prior to this, the global increase in cocoa prices had, for a time, shielded the country from the inevitable crisis of foreign exchange. The relatively short-lived boom, which peaked in 1974-5, allowed the government to print cedis in order to increase state spending, much of which went on patronage building and placating powerful actors in the military and police. As cocoa prices again dropped, they left an expenditure structure which could not be followed in later years, setting Ghana on its path towards national bankruptcy.[163] The agricultural sector was already short of inputs, even in 1974 the country's entire supply of fertiliser would only have covered 52 percent of the area under rice, however these shortages only increased in the following years.[164] The agricultural sector slowed and then stalled, and acreages and production declined.[165]

Such shortages contributed to the collapse of healthcare. In the 1975 Ashanti Health Services report, A.K. Ghosh describes the extent to which public health and the

[160] Shepherd, p. 181.
[161] Shepherd, pp. 184–5.
[162] Shepherd, p. 183.
[163] The reasons behind this decline are complex and the period lacks in-depth research. Good starting points are, Frimpong-Ansah, pp. 109–10; Dan-Bright S. Dzorgbo, *Ghana in Search of Development: The Challenge of Governance, Economic Management and Institution Building* (Aldershot: Ashgate, 2001), pp. 236–37.
[164] Nweke, 'Agricultural Research', p. 20.
[165] See, for instance, PRAAD/K/ARG/2/12/17, Operation Feed Yourself, Third Phase, (Vol. 4), 1973-77, Speech by Brigader N.A. Odartey-Wellington, Commissioner for Agriculture, 11/2/1977.

infrastructural underpinnings of good health had been undermined. For instance, in Kumasi,

> 'Conservancy and cesspool emptiers are so few that they cannot possibly cope with the volume of work. As a result septic tank latrines are sometimes so full that the floors are covered with partially digested excreta.'[166]

Curative medicine was also gravely damaged 'by permanently recurrent shortages':

> 'Nurses and doctors readily improvised whenever necessary in order to cope with shortages of various items, but a limit is set to this initiative. The results of the chronic recurrent shortage are slowness of various surgical and clinical procedures, frustration of the nursing and medical staff, general decline in efficiency, and in some cases, loss of interest.'[167]

These were problems which also affected the nutrition programme. In the 1950s, the popularity of new nutrition clinics had 'overwhelmed' them with patients.[168] Into the 1960s, malnutrition clinics still sought to provide supplementation and relief for mothers burdened by multiparous births or financial handicaps.[169] However, later in the decade, 'the interest of the villagers in reporting to [the] clinic was waning due to the unavailability of powdered milk, oil and second hand clothing.'[170] By 1975, 'mothers appear to be reluctant in bringing their malnourished children to this special [nutrition] clinic.' However, increased attendance at particular welfare clinics coincided with nutrients supplied by the CRS.[171] As Allman found in colonial Asante, Ghanaian mothers 'participated in mothercraft exercises largely on their own terms.'[172] However, if the costs of attendance at these clinics dropped relative to their benefits, the use of such services naturally waned. Following public service cuts in the later 1960s and input shortages during the 1970s the state could no longer provide the curative medicine mothers wanted, simultaneously the medical community also lost the stage from which they had disseminated advice.

In the same 1975 report, Ghost lamented that 'the Public Health Nursing Service was faced with an up-hill task' as 'the two Kombi V.W. busses sent to the region some years ago are now unserviceable and off the road with no attempt being made to replace

[166] PRAAD/K/ARG/2/8/69, A.K. Ghosh, Health services, Ashanti Region, 1975 Annual Report, p. 21.
[167] PRAAD/K/ARG/2/8/69, Ghosh, p. 49.
[168] PRAAD/T/NRG 8/13/29, Moody to Secretary to the Regional Commissioner.
[169] PRAAD/Kum./ARG/2/8/69, van der Puije, p. 20.
[170] PRAAD/T/NRG 8/6/57, Ghana Food and Nutrition Board, 1964-1968, 'Minutes of First Meeting of Regional Food and Nutrition Advisory Committee' 4/2/1966, Regional Office, Tamale.
[171] PRAAD/K/ARG/2/8/69, Ghosh, p. 24.
[172] Allman, 'Making Mothers', p. 40.

them.'[173] In contrast with the increasingly austere health service, Acheampong's government had been dubbed '*Fa woto begye Golf*' ('Bring your backside for a Golf') for the liberality with which government officials were said to dispense Volkswagens to their mistresses.[174] Under Acheampong, corruption reached lofty heights and opulence in the centre came to define his rule as much as shortage at the fringe. Import licences and foreign exchange allocations became symbols of government largesse and fed an already parasitic state at the expense of the country's poor.[175] The visibility of corrupt accumulation by officials discouraged public involvement in legitimate trade and promoted a beat-them-all culture of survival known as *kalabule*, removing any incentive to participate in the formal economy.[176] The black market swelled and, following the revaluation of the cedi and government 'management' of exchange rates, huge amounts of produce were smuggled out of the country. With real prices four times higher in Cote d'Ivoire and Togo and no incentives to encourage the legitimate sale of cocoa as much as 12 percent of Ghanaian cocoa was smuggled out of the country in 1977 alone.[177] In Asante, farmers too far from the borders to profit from smuggling reduced their investment in cocoa and grew more food crops, some of which were also smuggled abroad to side-step price fixes. Intraregional trade broke down, with grain shortages in the South largely the result of smuggling in the North.[178] Even government sponsored rice farmers banded together to create a private rice market.[179]

Combined with the collapse of the health system, the collapse of the food economy preceded a dramatic epidemic of clinical malnutrition into the 1980s. In 1964, 6.3 percent of the nearly twenty thousand children seen over a six month period at Kumasi's Maternal and Child Health Centre presented with protein-energy malnutrition, with 2.9 percent 'mainly kwashiorkor' cases.[180] Between 1970 and 1975, nearly 17 percent of inpatients in Agogo Hospital's paediatric department were seen with either kwashiorkor or marasmus [Table 5.6]. Though these figures are not necessarily comparable, the

[173] PRAAD/K/ARG/2/8/69, Ghosh, p. 24.
[174] Akyeampong, 'Urbanization', p. 230.
[175] Naomi Chazan, *An Anatomy of Ghanaian Politics: Managing Political Recession 1969-1982* (Boulder, CO: Westview Press, 1983), p. 181; Rimmer, pp. 134–35.
[176] It is thought that kalabule comes from the Hausa '*kara bude*', meaning 'hide it.' See, Chazan, pp. 194–97.
[177] Paul Nugent, 'Educating Rawlings: The Evolution of Government Strategy Towards Smuggling', in *Ghana: The Political Economy of Recovery*, ed. by Donald S. Rothchild (Boulder, CO: Lynne Rienner, 1991), pp. 49–68 (p. 83).
[178] PRAAD/K/ARG/2/8/118, Food Distribution Corporation, 1974-77, R.K. Zumah Regional Commissioner, Northern Region, to the Secretary of the SMC, Accra, 14/10/1976, 'Flow of foodstuffs from the region.'
[179] Shepherd, p. 179.
[180] PRAAD/K/ARG/2/8/69, van der Puije, pp. 10-11.

singular data-set collected by Jeltje van der Mei, a Dutch paediatrician who had worked for twenty-six years in Ashanti-Akim, confirms the dramatic increase in malnutrition over the course of the 1970s [Table 5.6 and 5.7].[181] Between 1970 and 1975, kwashiorkor was fairly common but not particularly severe, with an inpatient death rate of 6.4 percent. Marasmus also followed a similar pattern. However, between 1977 and 1982, kwashiorkor brought more patients and caused more deaths in Agogo hospital than any other disease. Between these two periods, there was a 110 percent increase in kwashiorkor patients, with the far higher 1977-82 death rate of 19.8 contributing to a 522 percent increase in kwashiorkor deaths between these two periods. Marasmus deaths increased too, although only by 74.3 percent. Still, the death rate for marasmic children increased from 8.4 to 15.4. Interestingly, where marasmus was a growing concern in the cities, marasmus patients actually dropped by 5.5 percent in Agogo, suggesting a return to precolonial patterns of malnutrition less related to early and improper weaning.[182] Perhaps, as was the case in pre-industrial Europe, market decline freed up maternal time, restricted access to supplementary foods, encouraged lower fertility and facilitated longer periods of breastfeeding.[183]

Though nutritional status declined across the country [Figure 5.1], in the late 1970s and early 1980s the primary concern in rural Asante was clearly kwashiorkor. This can perhaps be partly ascribed to the dietary subsitutions seen during this period. Listing concerns over feeder roads and distribution failures, Commissioner for Agriculture, Col. Bernasko, implored the public to produce more foods which could be preserved for longer, especially *gari* (roasted cassava) and *konkonte* (cassava flour).[184] It is likely that, during these years, cassava replaced plantain in the culturally ubiquitous *fufu*, while maize paps like *kenkey* disappeared entirely. *Konkonte* is also particularly dangerous – especially as a weaning food – because it can be easily stretched into a thin gruel which fills stomachs but cannot feed growth. In the North too, Clark suggests that the acceptance of *gari* derives from these years, when traders in the north sold what little grain they had produced for cassava.[185] At the same time as forest staples were substituted, Asante also lacked the purchasing power to command high protein grains and pules which were now being smuggled out of the North, leading to a flurry of

[181] Jeltje van der Mei, '26 Years of Paediatric Practice in Rural Ghana: Child Health in Ashanti-Akim District, Working towards a Comprehensive Approach' (unpublished PhD, University of Groningen, 2005).
[182] Sai, 'Nutrition in Ghana', p. 97.
[183] Breschi and Livi Bacci, pp. 161–62.
[184] PRAAD/K/ARG/2/8/111, Ministry of Agriculture, 1973-74, F.G. Bernasko, Commissioner for Agriculture to C.D. Benni, Commissioner for Information, 2/5/1973, 'Complaints about rising food prices.'
[185] Clark, 'Food Traders', p. 249.

accusing letters between regional administrations and the militarisation of regional borders.[186] However, epidemic kwashiorkor in Ashanti-Akim did not result simply from food decline and dietary substation in the late 1970s, it was also influenced by the ecology of forest agriculture and the particularities of Asante food culture and Asante childrearing.

Both the food shortage of the 1970s and the recent course of Asante history combined to compound Asante's cultural and ecological predisposition to protein deficiency. Over the course of the twentieth century, population growth and cocoa's incursions into the forest had also led to a marked decline in biodiversity and the food and nutrition security which had accompanied the forest ecosystem. In terms of bushmeat, for instance, Asibey found that, in 1956, 'bushmeat forms an important protein source at least for families in the rural areas of Ghana.' However, the price of bushmeat increased by 25 percent between 1956 and 1963, leading to more intensive hunting during which 'smaller species besides big game are also … intensively hunted and have gained prominence in the bush trade.'[187] By 1966, 36 percent of all meat consumed in the country was bushmeat.[188] However, overhunting led ultimately to a decline in bushmeat availability. Fruit agriculture also declined with the expansion and maturation of tall cocoa orchards, as did self-seeded fruit trees and, with this, the viability of foraging for food. Fruits and animals were found deeper in the bush but they cost more time and energy and gains were uncertain. By the late 1970s it is probably safe to assume that the food and nutrition security previously offered by the richness of the forest had declined significantly and was no longer amenable to many Asante.

It is also likely that the densely-populated, cocoa-dependent area around Agogo was particularly unfortunate in this respect. Elsewhere, as in the Brong-Ahafo village of Hani, lower population densities and a lower dependency upon cash-cropping facilitated a swifter return to subsistence. Cottage industries, such potters and blacksmiths, remerged to make and fix the tools which would have been imported but were now too expensive to buy, the number of homes increased from 67 to 100, school attendances jumped 100 percent. Remarkably, the people of Hani judged themselves and their neighbours better

[186] PRAAD/K/ARG/2/8/118, Food Distribution Corporation, 1974-77, R.K. Zumah Regional Commissioner, Northern Region, to the Secretary of the SMC, Accra, 14/10/1976, 'Flow of foodstuffs from the region.'; PRAAD/K/ARG/2/8/118, Food Distribution Corporation, 1974-77, Y. Boachie, Regional Commissioner, FDC to Regional Commissioner, Ashanti, 10/11/1976, 'Seizure of maize at the regional border checkpoints'; PRAAD/K/ARG/2/8/118, L.K. Kodkiku, Regional Commissioner, Ashanti, to Deputy Commissioner of Police, Ashanti, 18/11/1976, 'Haulage of maize to and from Kumasi'

[187] E.O.A. Asibey, 'Utilisation of Wildlife in Ghana', *The Ghana Farmer*, 9.3 (1965), 91–93 (p. 91).

[188] B. Volta, 'The Future of Ghana's Wildlife', *The Ghana Farmer*, 15.1 (1971), 30–35 (p. 30).

off in 1980 than they had been in 1970.[189] Even at the height of economic crisis, food security remained fairly good for most rural families and villages. Hunger in the countryside was greatest in highly-specialised areas which were least able to revert to food production.[190] It was those areas most skewed towards capitalist agriculture which were the most at risk. For some at least, and perhaps for some around Agogo, the 'broad forest rent' which had previously ensured food security and economic advantage had been latterly undermined by the degree to which it had facilitated capitalist development.[191]

As was the case in Asante during the 1960s cost-of-living crisis, those dependent upon bought food were particularly at risk of forfeiting their nutrition in view of market decline. For instance, as early as 1973 there was said to be an 'acute' food shortage in the large mining town of Obuasi.[192] By May 1977, and following the government's attempts at regulating the prices paid for maize, it was reported that 'all spots in Kumasi noted for the sale of *kenkey* have become virtually deserted … situation causing grave concern among general public.'[193] In a survey undertaken in Asante during OFY, 93 percent of non-farmers – ranging from architects to clerks to housewives – said that they could not easily feed their families and claimed that between 80 and 90 percent of personal income went on food.[194] Asante farmers were also asked 'do you feel that today you can easily feed yourself and your family?' Seventy-six percent of the farmers responded negatively, leaving Girdner et al to ask 'if a large majority of farmers cannot feed themselves and their families, how then can they satisfy the appetites of an entire population?'[195] By the late 1970s they simply could not, and those dependent upon the market were left stranded as the market shrank from view. In 1972, Robertson explained that 'a person entering Salaga Market [in Accra] is usually overcome, first by the smell of fish, and second by the incredible press of people.' By 1978 she saw it 'somnolent with half of the

[189] Merrick Posnansky, 'How Ghana's Crisis Affects a Village', *West Africa*, 1 December 1980, pp. 2418–40.
[190] Clark, 'Food Traders', pp. 244–45.
[191] Gareth Austin, *Labour*, pp. 10–12.
[192] PRAAD/K/ARG/12/25, Operation Feed Yourself, Second Phase (Vol. 1), 1973, B.E. Laing, District Administration Officer, Obuasi, to the Regional Officer, FDC, Ashanti, 7/6/1973, 'Food Shortage at Obuasi.'
[193] PRAAD/K/ARG/2/8/118, Food Distribution Corporation, 1974-77, G.S. Aggor, SECPOL Ashanti to SECPOL Headquarters, 3/5/1977, 'SITREP.'
[194] Girdner and others, p. 22.
[195] Girdner and others, p. 21.

stalls empty, low stocks of goods, and very few customers' – the end of a 'long process of unbenign neglect.[196]

c. *1983 and how Ghana got there*

In a prescient 1974 speech, A.A. Kwapong, the Vice Chancellor of the University of Ghana explained that 'hunger is not yet a serious problem in Ghana, but with our rising population, the world-wide inflation and the greatly increased cost of imported food commodities, a spell of unfavourable climatic conditions in addition can plunge us into disaster.'[197] Ghana was already in the midst of its worst drought for decades but, in 1983, rainfall across the Volta basin reached its lowest figure for a generation, a million Ghanaians living in Nigeria (around 10 percent of the population) were repatriated into a food economy which had scant ability to feed them and, to cap off the crisis, wildfires destroyed an already deficient harvest across Southern Ghana.[198]

The years leading up to 1983 saw a pattern of hunger and malnutrition further strained by an even greater degree of political fragility. Before brewing social tensions could escalate into violence, in July 1978 Acheampong was overthrown by members of his own military leadership, the Supreme Military Council (SMC). However, as Fimpong-Ansah explains, 'the pressures within the economy that led to Achempong's removal could not be assumed to have evaporated with his departure. Governments were reinstalled and removed depending upon what they could deliver from whatever resources that remained.'[199] Though attempting some limp reform, the SMC were too closely allied to the previous government to supress urban discontent and, in June 1979, Jerry John Rawlings and a band of junior military officers, the Armed Forces Revolutionary Council (AFRC), took power for the first time. Their brief but brutal rule had little long-term economic impact and neither did Hilla Limann's incoming democratically elected government, largely because Rawlings seized power again in 1981. Rawlings' now overtly Marxist government, the Provisional National Defence Council (PNDC), focused on redistribution and market control rather than addressing flaws in production. 'Economic

[196] Robertson, 'Makola', pp. 470–71.
[197] A.A. Kwapong, 'Vice-Chancellor's Welcome Address', in *Food and Population: Ghana's Operation Feed Yourself Programme - a Case Study. Report of the 26th Annual New Year School of the Institute of Adult Education, 30 December 1974-8 January 1975*, ed. by Kwa O. Hagan (Legon: University of Ghana, 1975), pp. 15–19 (p. 18).
[198] E. Ofori-Sarpong, 'The 1981–1983 Drought in Ghana', *Singapore Journal of Tropical Geography*, 7.2 (1986), 108–127.
[199] Frimpong-Ansah, p. 111.

criminals' were broadly defined; traders were beaten, fined or imprisoned; bank accounts exceeding an arbitrary allowance were redistributed; and large denomination bank notes were abruptly taken out of circulation.[200] However, Ghana's long-fermented economic decay was brought to a head by the insurmountable problems of 1983. Rebuffed by the increasingly isolationist Soviet Union, the ideological allies of the PNDC, Rawlings had little choice but to submit to the IMF's Structural Adjustment Programme (SAP) and rapid market liberalisation. Initially seen by some in the PNDC as analogous with Lenin's retreat from War Communism, Structural Adjustment has, however, set the course of national development ever since.[201]

Although the extreme events of 1983 may be seen to have forced Rawlings' hand, severe food shortages were almost inevitable given the extent of market failure. The food market had all but collapsed in the immediate wake of Rawlings' first revolution. The confiscation of foodstuffs en route to market, the sale of food by police and soldiers at arbitrarily low prices, and savage attacks on food sellers had an 'immediate' and 'catastrophic' effect on urban food supplies. Perishable vegetables disappeared within days while grains, beans and pulses only lasted until traders had exhausted their current stocks.[202] Direct assaults on merchants simply accelerated a trajectory which was already in place. Those reliant on the market suffered while those able to withdraw from it took their opportunity to do so. During this period it was farmers, not traders that determined food supply. Food which would rot quickly came to market, that which could be left on the plant or in the ground stayed there until it could be safely sold or, as was increasingly the case, bartered.[203] PNDC attempts to strong-arm a command economy in support of an insubstantial proletariat ignored the will and mass of the rural peasantry, as well as antipathy towards revolutionary aims which only made the rural poor poorer in the short-term.

Marking the peak of postcolonial malaise and the then lowest point in terms of nationwide nutritional status [Figure 5.1], 1983 and the spiralling food crises of preceding years were markedly different from previous periods of want. Epidemic malnutrition during these years represented a new form of dearth which resulted from market contraction and was concentrated amongst the market-dependent proletariat. In terms of the rather clinical 'intensity scales' forwarded by Howe and Devereux, these might be considered famine years. Given comparable anthropometric figures for the later 1980s

[200] Dzorgbo, pp. 256–78.
[201] Don Robotham, 'The Ghana Problem', *Labour, Capital and Society*, 21.1 (1988), 12–35.
[202] Clark, 'Food Traders', p. 243.
[203] Clark, 'Food Traders', pp. 244–45.

and early 1990s [see Chapter 7], it seems plausible that the incidence of clinical wasting (weight-for-height <-2SDs from the international standard) may well have exceeded the 20 percent threshold forwarded by Howe and Dervereux, at least in certain areas and amongst certain groups. Excess mortality also surely increased, perhaps also to the 1 per 10,000 per day suggestive of famine conditions. Where it did increase, it will have concentrated amongst children and resulted primarily from the dramatic rise of severe oedematous malnutrition, another indicator of famine [Table 5.6 and 5.7].[204] However, in the cruder but more emotive 'classic' sense, characterised by the presence of death from starvation, famine was absent during these years.[205] It is grimly ironic, though, that the breadth and depth of nutrition insecurity – born from an ever-increasing dependence upon bought food – probably contributed to significantly more excess mortality than the isolated food insecurity and periodic starvation seen in the North during previous years.

More properly, 1983 represents the drawn-out zenith of a food crisis particular to the political economy of the preceding years. Where, in pursuit of better-organised relief, migration usually flows from the country to the city during periods of food shortage, by the late 1970s the food situation was rather worse in Southern cities than in the surrounding countryside.[206] The repatriation of migrants from Nigeria also suggests that the source of long-distance migration during this period of contraction was the previously affluent, and commercially dependent, cocoa belt. UN data shows that 32 percent of returning Ghanaians were moving to Asante and 18 percent to the Eastern Region. Central, Western and the Greater Accra Regions together accounted for another 32 percent, with the Volta and Brong Ahafo Regions taking 7 percent each. The Northern and Upper Regions each only received 2 percent of returnees.[207] In the North, longitudinal analyses of migration and rainfall suggest that the period of worst environmental stress, the late 1970s and early 1980s, was actually a time of reduced out-migration, as political and economic factors outweighed environmental ones.[208] Although, in the north-west, these years have entered collective memory as a period of

[204] Paul Howe and Stephen Devereux, 'Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine', *Disasters*, 28.4 (2004), 353–72.
[205] Ó Gráda, *Famine*, pp. 6–7.
[206] Ó Gráda, *Famine*, p. 84; PRAAD/K/ARG/2/8/118, Food Distribution Corporation, 1974-77, G.S. Aggor, SECPOL Ashanti to SECPOL Headquarters, 3/5/1977, 'SITREP.'
[207] With only one coastal land border officially open, Brydon's straw poll of returnees in Volta suggests that as many as 18 percent of returnees arrived along bush paths. It can probably be assumed that this number was considerably higher further north and lower in regions further from land borders. See, Lynne Brydon, 'Ghanaian Responses to the Nigerian Expulsions of 1983', *African Affairs*, 84.337 (1985), 561–85 (pp. 570–71, 578).
[208] Kees van der Geest, 'North-South Migration in Ghana: What Role for the Environment?', *International Migration*, 49 (2011), 69–94.

particular hardship and hunger, there does not seem to be evidence of either widespread or localised starvation. Instead, those suffering poor harvests reverted to traditional coping measures, including localised migration in pursuit of cash employment or organised food aid.[209]

In some respects, the reasons for Ghana's economic decline, the return of famine in the 1960s and 1970s, and the dramatic decline of nutritional status are deeply rooted in its history. A legacy of colonialism and outward facing development made it difficult for independent Ghana to address its internal concerns without upsetting its long-standing orientation within an insidious global system. However, while these are important factors, colonial crimes should not negate those of successive independent administrations. Poor economic planning in the immediate postcolonial period undermined agricultural development in a time of economic promise and climactic good fortune. Instead, successive development agendas consistently overlooked peasant production as a driver of development and the foundation of the Ghanaian economy. Not only did this do little to buoy national food security, the promotion of progressive farmers established a petite bourgeoisie and exaggerated the polarisation of Ghanaian society at the expense of a disenfranchised rural poor. Moreover, agrarian collapse did nothing to arrest the population pressures and population movements which further upset rural productivity. Although it is not wrong to view hunger and nutritional stress during these years as a Malthusian crisis, Malthusian explanations remain wrongheaded. Ghana's depleted agrarian population resulted from governmental neglect rather than untenable population growth. If drinking water, electricity and healthcare are absent in rural areas and if roads are poor or often impassable it is unlikely that agrarian peasantries will attract or retain populations vigorous enough to stimulate efficient capitalist production. More direct assaults on the economic agency of peasant producers under the PNDC only served to further alienate these key elements of national food security. Life in the towns was not necessarily any better either. Although the political expediency of urban populations and the greater provision of infrastructure allowed for a degree of social security, food security became increasingly strained and nutritional status declined in conjunction with the national food economy and urban public health.

Drought accentuated this decline but did not cause it. It was, instead, caused by a continuation of colonial politics, a politics of neglect which emphasised extraction at the expense of social reproduction. Perhaps it is best to see the haltered history of Ghana's

[209] Kess van der Geest, *We're Managing!: Climate Change and Livelihood Vulnerability in Northwest Ghana* (Leiden: African Studies Centre, 2004).

post-independence growth as a crisis of capitalism, where the undervalued traditional-agrarian system propped up an inefficient capitalist one. This was a system which left those farthest removed from the pre-capitalist economy and at the margins of capitalist production the most likely to suffer as internal contradictions came to a head. At the same time, those operating at the points of friction, where the two systems intersected, were the most likely to take the blame. Middlemen and, more often, women were targeted because of their visibility, because they plied the gap between these two economies and because their trade was seen to exploit the inconsistencies within the postcolonial state. However, the fact that successive governments were wont to hold them up as the cause of Ghana's troubles only attests to the blameworthiness of the state itself. In this respect, the destruction of Makola market in August 1979 is a more telling culmination of postcolonial malaise than the apex of the economic crisis four years later. As market women in Accra were publicly beaten and a Kumasi cloth trader was shot for profiteering, her baby first removed from her back, *The Ghanaian Times*, a mouthpiece of the PNDC, endorsed a 'happy tragedy' for the 'worker, the common man', the physical destruction of a food market which had long since collapsed.[210] What the PNDC failed to concede, however, was the marginal importance of 'the worker' for the endurance of the divergent postcolonial economy.

[210] Quoted in Robertson, 'Makola', p. 469.

Table 5.6: Rank-order of paediatric admissions for primary diseases in Ashanti-Akim, three study periods between 1970 and 1988
Source: Derived from, van der Mei, p. 85-6.

	Period 1 1970-75			Period 2 1977-82			Period 3 1983-88			Percentage change		
Rank		n	%		n	%		n	%		Period 1-2	Period 2-3	Period 1-3
1	RTI	562	12.3	Kwash	825	15.0	RTI	1519	17.3	An	31.2	48.6	140.8
2	Mar	418	9.1	RTI	622	11.3	Msls	1215	13.8	DD	10.1	-32.6	-11.3
3	DD	417	9.1	Msls	549	10.0	Kwash	1133	12.9	Kwash	109.9	186.8	188.3
4	Msls	411	9.0	DD	459	8.3	Mal	704	8.0	Mal	4.1	150.5	160.7
5	Kwash	393	8.6	Mar	395	7.2	An	378	4.3	Mar	-5.5	-8.9	-13.9
6	Mal	270	5.9	Mal	281	5.1	DD	370	4.2	Men	-27.7	150.5	7.4
7	Men	242	5.3	An	206	3.7	Mar	360	4.1	Msls	33.6	121.3	195.6
8	An	157	3.4	Men	175	3.2	Men	260	3.0	RTI	10.7	144.2	170.3
-	Others	1706	37.3	Others	1991	36.2	Others	2841	32.4	Others	16.7	42.7	66.5
-	Total	4576	100	Total	5503	100	Total	8780	100	Total	20.3	59.5	91.9

RTI = respiratory tract infection; DD = diarrhoeal diseases; Kwash = kwashiorkor, including marasmic kwashiorkor; Mar = marasmus; Mal = malaria; Msls = measles; Men = meningitis; An = anaemia, including sickle cell disease.

Table 5.7: Rank-order of paediatric deaths and case fatality rates for primary diseases in Ashanti-Akim, three study periods between 1970 and 1988
Source: Derived from, van der Mei, pp. 86-7.

Rank order deaths										Percentage change			Case fatality rate			
	Period 1 1970-75			Period 2 1977-82			Period 3 1983-88									
Rank		n	%		n	%		n	%		Per. 1-2	Per. 2-3	Per. 1-3		1970-75	1977-82	1983-88
1	Msls	59	10.8	Kwash	163	23.0	Kwash	203	22.8	An	45.5	31.3	90.9	An	14.0	15.5	11.1
2	Men	54	9.9	Msls	71	10.0	RTI	100	11.2	DD	-12.2	-19.4	-29.3	DD	9.8	7.8	7.8
3	RTI	54	9.9	RTI	63	8.9	Msls	98	11.0	Kwash	552.0	24.5	712.0	Kwash	6.4	19.8	17.9
4	DD	41	7.5	Mar	61	8.6	Men	57	6.4	Mal	42.3	18.9	69.2	Mal	9.6	15.4	6.3
5	Mar	35	6.4	Mal	37	5.2	Mar	64	7.2	Mar	74.3	4.9	82.9	Mar	8.4	15.4	17.8
6	Mal	26	4.8	DD	36	5.1	Mal	44	4.9	Men	-50.0	111.1	5.6	Men	22.3	15.4	21.9
7	Kwash	25	4.6	An	32	4.5	An	42	4.7	Msls	20.3	38.0	66.1	Msls	14.4	12.9	8.1
8	An	22	4.0	Men	27	3.8	DD	29	3.3	RTI	16.7	58.7	85.2	RTI	9.6	10.1	6.6
-	Others	229	42.0	Others	220	31.0	Others	253	28.4	Others	-3.9	15.0	10.5	Others	13.4	11.0	8.9
-	Total	545	100	Total	710	100	Total	890	100	Total	30.3	25.4	63.3	Total	11.9	12.9	10.1

RTI = respiratory tract infection; DD = diarrhoeal diseases; Kwash = kwashiorkor, including marasmic kwashiorkor; Mar = marasmus; Mal = malaria; Msls = measles; Men = meningitis; An = anaemia, including sickle cell disease.

6. MODERNISING MALNUTRITION: A MEDICAL HISTORY OF NUTRITION IN POSTCOLONIAL AFRICA

One of the remarkable things about the postcolonial history of nutrition is how long it took for anything to change. Progress was delayed by a stagnant mind-set so heavily biased by the politics and personnel of colonial rule that it could not easily break from them. The internationalist form of medicine which stepped into the space left by retreating colonial regimes continued to look backwards and appropriated many of the ideas which had informed or misinformed its predecessor. At the same time that nutritionists were building on reductive, technical ideas regarding deficiency, social scientists and policy advisors were developing technical approaches to African hunger informed by the intellectual developments of nutritional science as well as evolving ideas regarding demography and 'overpopulation.' What were ostensibly new approaches to nutrition and hunger were broadly rooted in the same classical liberal economics which had underlined colonial development. The economic depression which spread across the continent in the 1970s and 1980s combined with the waning of Soviet influence, the return of Malthus and a renewed faith in free market solutions to poverty and hunger. It was in this very particular environment that treatments for malnutrition were eventually reappraised and ultimately revolutionised, with the biology of deficiency more keenly understood and mortality rates dramatically reduced. However, in the same way that colonial nutrition reflected colonial preoccupations, neoliberal treatments for malnutrition reflected the political and economic environment of neoliberal Africa. Echoing the modernist, technical and reductive approaches which had long ignored the structural causes of malnutrition, nutritional science in the postcolony remained subordinate to the political economy in which it evolved.

a. Looking past protein, eventually: the durability of colonial politics in postcolonial medicine

By the 1950s, the first cracks in the British formulation of kwashiorkor were starting to show. The reductive concentration on kwashiorkor as Africa's greatest nutritional deficiency and a simple problem of protein was heavily informed by the culture and

politics of empire while simultaneously oblivious to its health effects [see Chapter 1]. Given colonial involvement in the conceptualisation of protein malnutrition it is little surprise that the protein-deficiency hypothesis of kwashiorkor garnered its earliest criticisms from the postcolonial world. Speaking against the WHO's conclusions, the pioneering American food scientist, Nevin Scrimshaw, explained to a FAO/WHO sponsored nutrition conference in 1953 that 'in INCAP [the Institute of Nutrition for Central America and Panama] we are far from convinced that the biochemical changes encountered are specific to protein malnutrition; rather they seem to be non-specific.'[1] However, the Western medical machine overrode these anxieties by mounting concerns that kwashiorkor was simply the most extreme form of a widespread protein deficit. The 'impending protein crisis' led to the creation of the UN's Protein Advisory Group (PAG) created in 1955 in order to 'fight to close the protein gap.'[2] By 1962, Marcel Autret, then director of the FAO's nutrition division, explained that, in the Organisation's view, 'the number one problem … for national agricultural departments is the production of protein foods of good quality.'[3] Although the winds of change were beginning to sweep away colonial governments, they did little to change the direction of medical thinking in Africa and former colonial officers continued to dictate the direction of nutrition research long into independence. As Ghanaian medical pioneer Fred Sai explained with reference to Ghana's nutrition programme, 'you can overthrow a government very much more readily that you can change members of the civil service.'[4]

In this environment, and in the shadow of the 'impending protein crisis', international agencies and Western governments concentrated on the high-tech production of protein foods. In what Tom Scott-Smith describes as the 'high-modernist' approach to nutrition, researchers around the world continued the trend previously displayed in works like *Gold Coast Nutrition and Cookery* and strove to construct culturally alien high-protein 'foodstuffs' which played into the continuing dislocation of nutrition from food. British

[1] *Protein Malnutrition: Proceedings of a Conference in Jamaica, 1953*, ed. by J.C. Waterlow (Cambridge: Cambridge University Press for the FAO, WHO and Josiah Macy Jr. Foundation, 1955), p. 4.
[2] FAO/WHO/UNICEF Protein Advisory Group, *Lives in Peril: Protein and the Child.* (Rome: FAO, World Food Problems, no. 12, 1970), p. 51; Kenneth J. Carpenter, *Protein and Energy* (Cambridge: Cambridge University Press, 1994), p. 162. Similar concerns were also expressed by the colonial medical administration in late 1930s and early 1940s Uganda but cannot be divorced from the colonial context. Scrimshaw is presenting the view of nutritionists.
[3] M. Autret, 'Protein Malnutrition and the FAO Viewpoint', in *Progress in Meeting Protein Needs of Infants and Pre-School Children: Proceedings of an International Conference Held in Washington, D.C., August 21-24, 1960. Under the Auspices of the Committee on Protein Malnutrition, Food and Nutrition Board, and the Nutrition Study Section, National Institutes of Health*, ed. by National Academy of Sciences (Washington, D.C.: National Academy of Sciences, 1961), pp. 537–43 (p. 537).
[4] Sai, 'Nutrition in Ghana', p. 100.

Petroleum, for instance, created Single-Cell Proteins grown on oil, others created Leaf-Protein Concentrate, green jelly-like substances which were produced by putting inedible leaves through a centrifuge. Fish-Protein Concentrate, offal left over from filleting or the whole of a 'junk fish' proved fairly popular. Chlorella was less so, comprising of a single-cell form of algae which was grown on sewage. Nonetheless, as food grown entirely on waste, it did represent the crowning achievement of modernist nutrition and is still available, marketed as a health food.[5] The modernist obsession seeped into burgeoning African academies too, with Ghana's nutrition community showing considerable interest in technical approaches to protein deficiency in view of its growing population.[6]

Slowly though, the relative position of protein and calories in global nutrition was reconsidered. Dietary histories of kwashiorkor patients were reassessed and found to generally be deficient in calories as well as protein and, following a series of publications questioning the degree of protein needed to prevent and treat kwashiorkor in infants, the UN system slashed their recommended protein allowances.[7] Estimated requirements of protein for a one year old were, for instance, dropped to 1.1 g/kg a day in 1965, down markedly from the 2.0 g/kg a day recommended by the 1957 report.[8] Despite this, even in 1970 it was reported that 'the FAO as part of its Indicative World Plan for Agricultural Development (IWP), continue to be pessimistic [about the supply of protein] for most parts of the developing world.'[9]

It was only following a number of pointed publications written by Donald McLaren in the later 1960s that the growing incidence of marasmus was highlighted as a more pressing nutritional problem than any worldwide protein deficit. In 1966 McLaren explained that;

> 'The future is fraught with danger and at present we are ill-prepared to meet it. Marasmus is already underestimated, and all the indications are that it is rapidly on the increase as an epiphenomenon of the half-assimilated modernising process engulfing the developing regions of

[5] Scott-Smith, 'Defining Hunger', pp. 165–91.
[6] Fred T. Sai, 'Introducing New Foods Against Protein Deficiency', *Nutrition Reviews*, 18.12 (1960), 353–55; D.R. MacGregor, *Non-Traditional Food Sources for Feeding Increasing Populations: An Inaugural Lecture Delivered on Thursday, 26th October 1972, at the University of Ghana, Legon* (Accra: University of Ghana, 1972).
[7] Carpenter, *Protein and Energy*, pp. 180–203.
[8] FAO Committee on Protein Requirements, *Protein Requirements* (Rome: FAO Nutritional Studies, no. 16, 1957); FAO/WHO Expert Group, *Protein Requirements* (Geneva: WHO Technical Report, no. 301, 1965).
[9] FAO/WHO/UNICEF Protein Advisory Group, p. 41.

> the world. On the other hand, kwashiorkor, under the same influences, is dying out.'[10]

In 1974 McLaren famously suggested that the overt concentration on kwashiorkor should be considered a 'great protein fiasco' which had undervalued non-western diets, while simultaneously ignoring localised patterns of endemic marasmus.[11] McLaren's criticism of this trajectory was, at the 1966 International Congress of Nutrition, immediately met with 'public rejoinders from "the establishment" defending the party line.' However, 'in private I was told by many delegates that they agreed but were afraid to say so aloud for fear of having their support cut off.'[12]

Epidemic marasmus continued to spread into the postcolonial world as breastmilk substitutes, promoted overtly at first by retreating imperial governments, were given the tacit approval of those internationalist organisations which had grown to occupy thier space in the developing world.[13] Poorly regulated markets combined with poorly equipped medical systems to open the door to European manufacturers of baby foods. Nestlé employees dressed as nurses plied maternity wards in order to push breastmilk substitutes onto new mothers, while the budding mass media similarly advised them to 'choose Cow and Gate milk food for your baby and watch him thrive from the very first bottle.'[14] Despite their internationalist mandates, UNICEF, the FAO and the WHO were loath to speak out against predatory marketing strategies. Vigorous criticism from such organisations could be recognised as economic interventionism and an attack on those free market doctrines pursued by their main sponsors. Instead, and as late as 1973, the United Nation's Protein Advisory Group advised that 'in any country lacking breastmilk substitutes, it is urgent that infant formulas be developed and introduced.'[15]

In the mid-1970s, following the increasingly barbed arguments of McLaren and others, the protein bubble eventually burst. The United Nations Organization, previously principal scaremonger for 'a world protein problem', made no mention of any global

---

[10] D.S. McLaren, 'A Fresh Look at Protein-Calorie Malnutrition', *The Lancet*, 288.7461 (1966), 485–88 (p. 488).
[11] D.S. McLaren, 'The Great Protein Fiasco', *The Lancet*, 304.7872 (1974), 93–96 (pp. 93–96).
[12] McLaren, 'Fiasco', p. 94.
[13] Gabrielle Palmer, *The Politics of Breastfeeding: When Breasts Are Bad for Business* (London: Pinter & Martin, 2009), pp. 238–59.
[14] Mike Muller, *The Baby Killer: A War on Want Investigation into the Promotion and Sale of Powdered Milks in the Third World.* (London: War on Want, 1974), p. 10.
[15] 'Promotion of special foods (infant formula and processed protein foods) for vulnerable groups', PAG statement no. 23, 18th July 1972, revised 28th November 1973. Quoted in, Andrew Chetley, *The Politics of Baby Foods* (London: F. Pinter, 1986), p. 41.

protein deficit during its 1974 World Food Conference.[16] The next year, in a word-for-word reversal of the conclusions made in *Nutrition in the Colonial World*, Waterlow and Payne explained in an article in *Nature* that 'the problem is mainly one of quantity rather than quality of food.' Clarifying that 'the protein gap is a myth, and that what really exists, even for vulnerable groups, is a food gap and an energy gap.'[17] The epidemiology of marasmus was soon re-evaluated and the pathology of kwashiorkor soon reconsidered, with one 1980 study concluding 'that energy was generally a limiting nutrient before protein.'[18] By the mid-1980s, the pursuit of expensive, technical solutions to protein deficiency in resource-poor settings was receiving unreserved criticism in the medical press. One project pursuing the development of the 'winged bean' was denounced by LSHTM faculty members as constituting part of 'a continuing process of justifying scientific enthusiasms by the drawing of facile and tenuous links between research which is intellectually exciting to the investigator and problems which are of sufficient public concern to make it politically attractive to devote funds to them.'[19]

The biology of kwashiorkor remained scientifically interesting though, primarily because of the complicated pathology of the oedema seen in kwashiorkor. Studies into the presentation of adult 'famine oedema' had long discounted the exclusive influence of protein since swelling also appeared in patients with no history of low-protein diets.[20] Drawing from these studies, Michael Golden concluded in a 1982 article that 'no independent effect of protein intake on either loss or accumulation of oedema could be demonstrated.'[21] The explanation that kwashiorkor results simply from inadequate protein intake was apparently over simplistic and a considerable amount of contradictory evidence led Golden, amongst others, to conclude that 'oedematous malnutrition in the child or adult is not caused by protein deficiency; such a concept can lead to fatal therapeutic error in oedematous malnutrition treatment.' In this article, Golden goes on to suggest that a shortage of antioxidants was the cause of oedematous malnutrition, something disputed by a 2005 study which concluded that the administration of antioxidants failed to prevent the onset of kwashiorkor in over 2,000

[16] United Nations, *Report of the World Food Conference, Rome, 5-16th November 1974* (New York: United Nations Press, 1975); Carpenter, 'Part 4', p. 3337.
[17] J.C. Waterlow and P.R. Payne, 'The Protein Gap', *Nature*, 258.5531 (1975), 113–17.
[18] J. Landman and A.A. Jackson, 'The Role of Protein Deficiency in the Aetiology of Kwashiorkor', *The West Indian Medical Journal*, 29.4 (1980), 229–38.
[19] C.J.K. Henry, P.A. Donachie and J.P.W. Rivers, 'The Winged Bean: Will the Wonder Crop Be Another Flop?', *Ecology of Food and Nutrition*, 16.4 (1985), 331–38; Carpenter, 'Part 4', p. 3337.
[20] McCance; Keys and others, pp. 74, 921–65.
[21] M.H. Golden, 'Protein Deficiency, Energy Deficiency, and the Oedema of Malnutrition', *The Lancet*, 1.8284 (1982), 1261–65 (p. 1264).

Malawian pre-school children.[22] Other researchers doubting the position of simple protein deficiency in the aetiology of kwashiorkor have forwarded 'dysadaption', mycotoxins, or other free radical damage as the ultimate cause.[23] In any case, the place of protein in the aetiology of kwashiorkor is far from simple and far from settled. Sadly, very little of this later kwashiorkor research was considered in the context of public health. Though the protein bubble may have burst, the othering of African illness and some of the earlier fetishisation of kwashiorkor remained. In a short reply to this new debate, Ghanaian physician Konotey-Ahulu reminded the international community to look beyond the reductive concentration on diet and to consider the social aetiology of malnutrition. Explaining, in a 1994 letter to the *Lancet*, that 'those of us who grew up in the kwashiorkor belt and who have also had the benefit of an excellent medical education cannot help but caution our ministries of health and of social welfare about the danger of missing the social pathology wood for the trees of free radicals and leukotrienes.'[24]

With a broad base in imperial medicine, the trajectory of nutrition research even into the 1970s can be seen as a continuation of the same paternalistic bio-politics which had distorted the 'discovery' of malnutrition in the colonial world. The perceptions of African dietary deficiencies established under colonial rule and in the context of colonial power extended well beyond the period of direct imperial intervention as part of a scientific tradition informed by the imperialised invention of a specific form of malnutrition. The preoccupation with protein in Africa was a politically reactive scientific construction and, by continuing to codify malnutrition as a problem of ecology or understanding into independence, this formulation understated the role of social and economic change and undermined the development of preventative measures.

The reductive concentration on protein in postcolonial Africa should, therefore, be seen as part of a linear intellectual history beginning with 1939 publication of *Nutrition in the Colonial Empire*. The 'protein fiasco' can be considered a continuation of the same thought process which allowed the Colonial Office to ignore the possibility that malnutrition was a structural, social problem resulting from the partial integration of Africa into the globalised economy and instead reframe it as an ecological, technical

[22] M.H. Golden, 'Oedematous Malnutrition', *British Medical Bulletin*, 54.2 (1998), 433–44 (p. 433); Heather Ciliberto and others, 'Antioxidant Supplementation for the Prevention of Kwashiorkor in Malawian Children: Randomised, Double Blind, Placebo Controlled Trial', *BMJ*, 330.7500 (2005), 1109–11.
[23] Truswell, p. 304.
[24] F.I.D. Konotey-Ahulu, 'Issues in Kwashiorkor', *The Lancet*, 343.8896 (1994), 548 (p. 548).

problem which could only be tackled by globalised science.[25] Nutritional science in the twentieth century is then inseparable from the earlier politics of colonialism. In Bruno Latour's philosophy of science, scientific discovery and understanding is often muddied by the establishment of its own worth. The further science progresses away from each initial discovery, the harder it is to understand the science of that discovery and the processes which had led to it. Even into the postcolonial period, nutritional intervention was built on under-criticised conclusions about nutrition which were largely formed in the skewed scientific environment of tropical medicine and colonial rule.[26] Driven by competition and informed by the socio-political environment, as Latour further explains, scientific fact does not simply exist in the natural world but is instead created by consensus and maintained by a network of social, cultural and political alliances. The consensus regarding protein malnutrition was formed in the particular cultural context of imperial Africa and was strengthened by the networks of Western researchers which continue to underpin perseverant ideas regarding African exceptionalism and justify European authority over Africa.

b. *Malthus and malnutrition in postcolonial Africa: 'overpopulation' and the new politics of deficiency*

During the colonial period, kwashiorkor research was pursued because it was scientifically interesting and promoted as politically passive – an inevitable consequence of a generalised African food environment. However, Western approaches to nutrition in Africa changed quickly in the postcolonial climate, where responsibility for African hunger could be less readily ascribed to the actions of European polities. As with the construction of endemic protein deficiency in earlier years, understandings of African malnutrition developed in conjunction with the postcolonial political discourse. The refiguring of African deficiency into a problem of calories cannot be divorced from these external political conditions. In the same way that protein was a bio-political object manipulated both consciously and subconsciously by colonial administrators, calories, food aid and famine relief were utilised as bio-political objects and agents for the control and coercion of postcolonial governments. The political ascendancy of neo-Malthusian thinking in the later twentieth century coincided with postcolonial conflict, economic decline and the African food crisis in order to colour the science of nutrition. It is,

[25] Worboys, p. 221.
[26] Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Milton Keynes: Open University Press, 1987), pp. 2–3.

perhaps more than anything else, the politics of African population that has determined the modern history of nutrition in Africa.

Population has long been an important part of the dialogue concerning poverty and hunger in Africa. During the early years of colonial rule it was generally assumed that Africa's population was stagnating and that only through Western intervention would it improve. In extremely invasive regimes, as in the Belgian Congo, colonial governments and expatriate companies explicitly promoted high birth rates and short birth spacing through financial incentives.[27] However, as Africa's population exploded under the relative stability of colonial rule, demographers began to construct a view of Africa's population growth as unsustainable and overreaching the ecological restraints of a poorly endowed continent. Encouraged by the increasing incidence of drought and famine, into the 1970s something of a consensus was formed along these lines.[28] 'Overpopulation' has since become a recurring motif in modern discourses regarding Africa, while 'population pressure' is still often used to explain high continental burdens of poverty, famine and disease.[29] Narrowly framed as a ratio of food production to population, given Africa's limited industrialisation the neo-Malthusian conceptualisation of African hunger could be addressed either through the expansion of food production or through population control. In practice, this meant either a 'Green Revolution' which could expand agricultural capacity through the introduction of new crop varieties, or the widespread adoption of contraception. In both cases, and as was the case with the colonised epidemiology of 'endemic' kwashiorkor, postcolonial hunger could only be solved through technical fixes generally peddled by Western governments and promoted by Western initiative.[30]

In the 1940s and 1950s some agencies, including John Boyd Orr's FAO, favoured addressing problems of food production and distribution and assumed that the

[27] Hunt.
[28] See, for instance, Robert W. Steel, 'Problems of Population Pressure in Tropical Africa', *Transactions of the Institute of British Geographers*, 49 (1970), 1–14.
[29] For example, Iliffe, *African Poor*, pp. 253–54.
[30] Karl Ittmann, '"Where Nature Dominates Man": Demographic Ideas and Policy in British Colonial Africa, 1890–1970', in *The Demographics of Empire*, ed. by Karl Ittmann, Dennis D. Cordell, and Gregory H. Maddox (Athens, OH: Ohio University Press, 2010), pp. 59–88 (p. 76); The history of demography is something which has enjoyed some recent interest, although it remains under-researched. The fullest history of demography as it pertains to empire is, Karl Ittmann, *A Problem of Great Importance: Population, Race, and Power in the British Empire, 1918-1973* (Berkeley, CA: University of California Press, 2014); For more general histories of demography see, Alison Bashford, *Global Population: History, Geopolitics, and Life on Earth* (Columbia University Press, 2014); Emily R. Merchant, 'Prediction and Control: Global Population, Population Science, and Population Politics in the Twentieth Century' (unpublished PhD, University of Michigan, 2015).

deployment of Western science could establish a world of plenty, where equitable food supply and mortality reduction would regulate standards of living and precede a natural fertility decline.[31] Others, such as the increasingly powerful Rockefeller-funded Population Council, sought to curb population growth through fertility control.[32] Using the 'transition model', demographers at first assumed that fertility decline would follow the pre-industrial European pattern, resulting from improved socioeconomic conditions and falling mortality rates. However the social precursors to mortality and fertility declines in the nation states of pre-industrial Europe – exemplified by conflict and famine prevention and improvements in health and agriculture – were often absent in the tumultuous political environment of postcolonial Africa. As many African countries began to record economic growth with little indication of fertility decline, demographers instead began to assume that population growth might actually undo the benefits of development and that fertility had to first be reduced in order to make room for development.[33] This rather negated a modernist or welfarist approach to food reform. What instead emerged was a view of African poverty and hunger which problematized female fertility rather than social and economic inequality or the inequitable distribution of food. This narrative suited Western agendas, emphasising the extension of Western medicine and the positive effects of mortality reduction while simultaneously ignoring recent changes to food production and food security.

Given the growing consensus regarding the solution to Africa's 'population problem', it did not take long for Western agencies to intervene in African population policy. However the new conceptualisation of African hunger was born from troubling scientific principles.[34] Eugenicist and often explicitly racialized approaches to contraception had formed the foundations of early family planning initiatives. For instance, the foremost voices in American contraception colluded to explicitly target black fertility. Margaret Sanger, founder of the American Birth Control League, and Clarence Gamble, founder of the Pathfinder Fund and heir to the Procter and Gamble soap company fortune, created the 'Negro Project' which claimed that 'the mass of Negroes, particularly in the South, still breed carelessly and disastrously.'[35] In South Africa, where African women generally had higher fertility rates than European women, African fertility was a particular worry

[31] Bashford, p. 303.
[32] Merchant, p. 319.
[33] Simon Szreter, 'The Idea of Demographic Transition and the Study of Fertility Change: A Critical Intellectual History', *Population and Development Review*, 19.4 (1993), 659–701.
[34] Ittmann, *Problem*, pp. 147–76.
[35] 'Negro project' proposal, quoted in, Linda Perlman Gordon, *Woman's Body, Woman's Right: Birth Control in America* (New York, NY: Penguin, 1990), p. 328.

for the future of Apartheid.[36] Following the Second World War, eugenics largely fell from vogue. However, ecology and environmentalism picked up neo-Malthusian critiques of high fertility populations and have run with them ever since. Hugely popular works such as Stanford University ecologist Paul Ehrlich's *The Population Bomb* startled audiences, highlighting the ecological impact of overpopulation and making sombre predictions regarding upcoming global catastrophe. Written in 1968, *The Population Bomb* had sold over three million copies by 1978.[37] University of California biologist Garrett Hardin's influential 1968 *Science* paper, 'The Tragedy of the Commons,' gave a philosophical framework to these new concerns. Hardin suggested that welfarism and access to commonly held property or land was at the root of the population problem, going on to ask 'how shall we deal with the family, the religion, the race, or the class … that adopts overbreeding as a policy to secure its own aggrandizement?'[38] 'The Tragedy of the Commons' stigmatised the ambitions of the poor, it was eugenic, anti-democratic, anti-socialist and gave rousing justification for the moral authority of class stratification, private property and capital accumulation. It fit perfectly into Cold War political and economic theory and later neoliberal demographic thinking which, as early as the 1950s, had promted the World Bank to expressly warn loan-seeking countries about the economic impacts of unfettered population growth.[39]

The spreading neo-Malthusianism typified by Hardin was already enshrined in the Cold War containment policies pursued by western governments and their internationalist agents who saw overpopulation as the source of the conditions which attracted peasants to communism.[40] Population control became part of foreign policy and national security planning. In the 1950s, and with the tacit approval of Western governments, private groups such as the International Planned Parenthood Federation (IPPF) and the Pathfinder Fund began to establish birth control clinics across Africa. By the 1960s, USAID and the British Ministry of Overseas Development began to directly fund birth control programmes, often explicitly tying the provision of food aid to the

[36] See, for instance, Susanne Klausen, 'The Race Welfare Society: Eugenics and Birth Control in Johannesburg, 1930-40', in *Science and Society in Southern Africa*, ed. by Saul Dubow (Manchester University Press, 2000), pp. 164–87.
[37] Merchant, p. 442.
[38] Garrett Hardin, 'The Tragedy of the Commons', *Science*, 162.3859 (1968), 1243–48 (p. 1246); This view was also commonly held in late-colonial Africa, with freehold land tenure considered the necessary response to population growth environmental decline. See, for instance, Hugh Dow, *East Africa Royal Commission 1953-1955 Report* (London: H.M.S.O., 1955).
[39] Merchant, pp. 324–27.
[40] Ittmann, *Problem*, p. 171.

implementation of population control programmes.[41] Here, Western financing of fertility manipulation plays into the debate concerning 'soft power', NGO involvement in Africa and the erosion of state sovereignty by wealthy non-state actors.[42] More generally, the coercive implementation of family planning programmes can be seen as a continuation of the domestic engineering first attempted by colonial governments.[43]

Host countries, however, were not entirely convinced by the necessity of fertility management. Although Ghana's official attempt at population control began in 1969, at the 1974 Bucharest Population Conference, Sai explains that 'the African countries attended in some strength; but they attended in some strength to present the view that population did not fit into African aspirations or African development.'[44] Despite this, by the 1980s virtually every nation in sub-Saharan Africa had implemented family planning programmes, largely at the behest of Western donors.[45] In more recent years, climate change has further promoted Western pressure on African nations to impose population controls, despite the fact that Africa is a net victim of climate change.

The enduring absence of fertility decline was initially understood as an inconsistency between the preference for a smaller family and the knowledge needed to limit family size. Largely unquestioned until the late 1980s, the 'KAP-gap' (KAP being knowledge, attitude and practice) emphasised an unmet need for family planning services even though 'the overwhelming majority of women who want no more children or who want to postpone fertility … are behaving in a manner consistent with that goal.'[46] Overpopulation and, by extension, malnutrition was, therefore, conceptualised as the result of educational shortcomings, social backwardness, political intransigence and an often uniquely African failure to adapt or modernise. In reality, as Blesdoe and Johnson-Hanks' work on African populations has shown, fertility generally responds to the culturally specific internal logics of childbearing as pertains to value, health, timing or

[41] Ittmann, '"Where Nature"', p. 75.
[42] Firoze Manji and Carl O'Coill, 'The Missionary Position: NGOs and Development in Africa', *International Affairs*, 78.3 (2002), 567–83.
[43] Agnes Czerwinski Riedmann, *Science That Colonizes: A Critique of Fertility Studies in Africa* (Philadelphia: Temple University Press, 1993).
[44] Fred T. Sai, 'Changing Perspectives of Population in Africa and International Responses', *African Affairs*, 87.347 (1988), 267–76 (p. 270).
[45] Sai, 'Changing Perspectives'.
[46] Charles F. Westoff, 'Is the KAP-Gap Real?', *Population and Development Review*, 14.2 (1988), 225–32 (p. 232); See also, John Bongaarts, 'The KAP-Gap and the Unmet Need for Contraception', *Population and Development Review*, 17.2 (1991), 293–313.

honour.[47] Rational calculations regarding family size were a muted part of the Western demographic transition too, but it is only recent scholarship which has illuminated this.[48]

Changes in demographic thought both reflected and informed contemporary changes in nutritional science. Beginning in the 1950s, the feminisation and Africanisation of African medical services had contributed to a discourse which gave greater consideration to the social and economic causes of nutritional illness, many of which were understood to be tied to the trials of motherhood in modern Africa.[49] Doctors across the continent began to consider the interaction between malnutrition and poverty and the ways that urbanisation and economic modernisation were interrupting the social and demographic mechanisms which had previously prevented malnutrition.[50] Influenced by increasingly socialised and gender-conscious perspectives, contraception was understood by many in Africa as a vital tool to combat malnutrition in a modernising economy. Following on from his nutrition work, Fred Sai, for instance, became a vocal crusader for contraceptive use in Africa, eventually becoming president of the IPPF.[51] The extension of family planning to poor communities can undoubtedly grant women valuable agency over their own childbearing. However, as a policy measure against malnutrition, the extension of family planning services was another technical fix for a symptom of colonial underdevelopment and postcolonial malaise. It did little to address the root causes of malnutrition and instead actively helped to obscure structural shortcomings by giving credence to neo-Malthusian narratives of African hunger.

Malthusian thinking also combined with a continental food crisis which was as much political as it was ecological. The food deficit seen in Ghana was matched across the continent, with per capita food output dropping by around one percent per year between the 1960s and the mid-1980s, when the decline started to slow.[52] This justified the neo-Malthusian model of African hunger and the need for family planning, while also apparently necessitating overseas involvement in African food security. Elsewhere, in

[47] Caroline Bledsoe, *Contingent Lives: Fertility, Time, and Aging in West Africa* (Chicago, IL: University of Chicago Press, 2002); Jennifer Johnson-Hanks, *Uncertain Honor: Modern Motherhood in an African Crisis* (Chicago, IL: University of Chicago Press, 2006).
[48] Kate Fisher, *Birth Control, Sex, and Marriage in Britain 1918-1960* (Oxford: Oxford University Press, 2006).
[49] Iliffe, *East African Doctors*, p. 141.
[50] See, for instance, Sai, 'Urban life'; Welbourn, 'Bottle Feeding'.
[51] Fred T. Sai, *Dr Fred Sai Speaks out* (London: International Planned Parenthood Federation, 1994).
[52] Jean-Philippe Platteau, 'The Food Crisis in Africa: A Comparative Structural Analysis', in *The Political Economy of Hunger: Volume 2, Famine Prevention*, ed. by Jean Drèze and Amartya Sen (Oxford University Press, 1991), pp. 279–388.

Asia or South America, hotter spots in the Cold War, agricultural modernisation was the primary method promoted by western governments in order to stem population pressure and leftist insurgency.[53] In Africa, however, the Green Revolution never really took off. Stymied by hostile environments and unsuitable variants of high-yielding crops, output from experimental farms was usually quite poor.[54] Nor did Green Revolution techniques suit the craft of African peasant production which deftly utilises a wide range of crops adapted to small variations in soil and climate.[55] More generally, though, the political will which brought the Green Revolution (as well as its social and economic problems) to Asia and South America was largely absent from Africa. Instead, African food security was propped up with foreign food. In 1954 the US Agricultural Trade Development and Assistance Act, commonly known as PL480 or 'Food for Peace,' came into being, soon becoming integral to American foreign policy as well as an important outlet for surplus agricultural produce.[56] PL480 initially aimed to dispose of surplus commodities either in the form of humanitarian assistance or as subsidised food for friendly countries. However, as NGOs began running autonomous food distribution programmes during the 1960s, PL480 also found a ready market for fortified and blended foods made from soy or skimmed milk and built on modernist, technical approaches to malnutrition.[57]

Through fertility manipulation and the extension of food aid, Western agencies formulated technocratic attacks on African hunger without the explicit authority of the host state. The politics of population gave the intellectual impetus for these developments. Over the course of the twentieth century, demography problematized 'overpopulation' as an issue of women's fertility for which Western contraceptive innovation was the best solution. Nutritional science followed suit, in turn targeting a reformulated conceptualisation of African malnutrition as a symptom of overpopulation. In the same way that kwashiorkor was a racialised and othered form of deficiency in an ostensibly universalist science, 'overpopulation' and, by extension, hunger was understood as a problem of African otherness, a result of incomplete modernisation and a particularly African inability to adapt. This conceptualisation of African deficiency

[53] John H. Perkins, *Geopolitics and the Green Revolution: Wheat, Genes, and the Cold War* (Oxford: Oxford University Press, 1997).
[54] R.E. Evenson and D. Gollin, 'Assessing the Impact of the Green Revolution, 1960 to 2000', *Science*, 300.5620 (2003), 758–62.
[55] John Iliffe, *Africans: The History of a Continent* (Cambridge: Cambridge University Press, 1995), p. 266.
[56] See, Vernon W. Ruttan, 'The Politics of U.S. Food Aid Policy: A Historical Review', in *Why Food Aid?*, ed. by Vernon W. Ruttan (Baltimore: Johns Hopkins University Press, 1993), pp. 2–38; Jennifer Clapp, *Hunger in the Balance: The New Politics of International Food Aid* (Ithaca, N.Y.: Cornell University Press, 2012).
[57] Tom Scott-Smith, 'Beyond the "Raw" and the "Cooked": a History of Fortified Blended Foods', *Disasters*, 39 (2015), 244–60 (pp. 254–56).

allowed for the continuation of the expatriate-led technical approaches to malnutrition which had defined colonial developments in nutritional science. Perhaps more importantly, the return of Malthusian explanations for political and economic shortcomings set the stage for the neoliberal economic reforms of the 1980s and the very particular approach to nutrition care which grew up under the free-market framework.

c. *Neoliberal nutrition: the international development of nutrition care in the time of adjustment*

Neo-Malthusianism is an important intellectual touchstone for neoliberal economics. For neo-Malthusians and for free-market fundamentalists, famine is a natural check on populations exceeding their means. Given chance – and adequate access to fertility limitation – the invisible hand could balance these populations. However, statist interventions in the market, usually in terms of unwarranted redistributive transfers, were understood to have allowed populations to swell beyond their natural bounds, resulting in poverty, malnutrition and environmental degradation. Although natural and perhaps necessary to some observers, starvation was still just as repugnant in the globalised political economy as it was under British governance. However, unlike under empire, where the narrative of African exceptionalism clouded the political realities of African hunger, internationalist approaches to postcolonial poverty normalised a view that independent African states could not provide for their subjects but that immersion into the globalised economy could. In the postcolony, hunger ultimately justified the neoliberal project, the outsourcing of famine relief and the circumvention of state authority over the broad bio-politics of food and nutrition.

In the 1980s, the conditionalities tied to IMF and World Bank loans brought African economies more fully into the global marketplace. States undertaking Structural Adjustment Programmes (SAPs) have been encouraged to support market-led development by reducing taxation, leaving less tax revenue available for the subsidisation of public services and healthcare programmes. This process increased the presence of NGO and charity bodies in African health care and nutrition management. As we will see in the next chapter, the first generation of adjustment policies did little to shore up nutrition security for marginalised groups, leading eventually to the UNICEF proposal of 'adjustment with a human face' and the World Bank's 'food security

approach' in the late 1980s.[58] However, as de Waal explains in his now classic account of modern hunger, this approach 'focuses on the social and economic dimensions and excludes the political. Structural adjustment involved a tremendous reconfiguring of political power and responsibility.' Perhaps more importantly, 'it has reinforced the trends towards treating famine as a technical economic issue rather than a political one.' [59] Malnutrition was treated in much the same way, echoing the colonial construction of malnutrition.[60]

However, that is not to say that internationalist technical approaches to nutrition were unsuccessful. At the start of the 1990s inpatient mortality rates were between 20 and 30 percent – the same rates as the 1950s – despite known protocols which could drop mortality to as little as 1 to 5 percent.[61] The widespread failure to translate clinical knowledge into practice was condemned by Berg in 1993 as 'nutrition malpractice.'[62] Regarding the state of kwashiorkor research in 1994, McLaren wrote,

> 'Two things greatly impressed me – how little original work has been done in the past two decades and how little progress has been made towards controlling kwashiorkor. The two could be linked, but an "off with the old and on with the new" attitude will not help.'[63]

Seeing as the primary thrust of nutrition research had been fatally undermined, nutrition research was languishing in the years after the 'protein fiasco.' However, the dramatic reduction of state-based nutrition programmes and the sharp rise of malnutrition which generally accompanied the neoliberal political economy gave nutritionists renewed purpose and new space in which to operate. Partly as a result of this, the greatest technical successes in nutrition intervention and the cure of severe protein energy malnutrition only began to emerge in the late 1990s and early 2000s.

There can be no doubt that these were wonderful advances which have done much to alleviate the human tragedy of malnutrition. Realising that calorie deficits had to be addressed in conjunction with protein deficiencies, by the early 1990s high-energy milk-based formulas were seen to provide effective treatment. F-75 and F-100 provided a

---

[58] World Bank, *Poverty and Hunger: Issues and Options for Food Security in Developing Countries.* (Washington, D.C.: World Bank, 1986); *Adjustment with a Human Face*, ed. by Giovanni Andrea Cornia, Richard Jolly, and Frances Stewart, 2 vols (Oxford: Clarendon Press, 1987).
[59] De Waal, p. 54.
[60] Worboys, p. 221.
[61] C. Schofield and A. Ashworth, 'Why Have Mortality Rates for Severe Malnutrition Remained so High?', *Bulletin of the World Health Organization*, 74.2 (1996), 223–29.
[62] A. Berg, 'Sliding toward Nutrition Malpractice: Time to Reconsider and Redeploy', *The American Journal of Clinical Nutrition*, 57.1 (1993), 3–7.
[63] D.S. McLaren, 'Issues in Kwashiorkor', *The Lancet*, 343.8896 (1994), 548–49 (p. 549).

relatively low amount of protein but proved their worth in the initial treatment of severe malnutrition (F-75) and in catch up growth (F-100), eventually forming a central part of WHO treatment guidelines.[64] By the mid-2000s, 'community-based' solutions to malnutrition became more viable due to the formulation of home-based treatments generally consisting of single-serve sachets of Ready to Use Therapeutic Food (RUTF).[65] Oil-based RUTFs – the most successful and well-known of which is Plumpy'nut – were more appropriate for at-home use than those which used water and could easily harbour bacteria, although F-75 is still generally used amongst inpatients.[66] Community-based Management of Acute Malnutrition (CMAM) is now pursued by many health ministries as an efficient and cost-effective treatment for malnutrition. It utilises the triage of malnourished children, using Mid-Upper Arm Circumference (MUAC) bands and the diagnosis of potential complications, so that most patients can now be deemed 'uncomplicated' and treated as outpatients, saving hospitals bed space and staff time. This system has also proved popular with parents, who no longer have to give their child up for weeks at a time to a far-away clinic, saving time and contributing to a lower loss of earnings.[67]

The home-based palliative approach to malnutrition using RUTFs has slashed malnutrition mortality and has been rightly heralded as revolution in nutritional science. However, the recent work of Tom Scott-Smith and others has emphasised concern over the social, political and historical contexts in which new nutrition treatments are utilised.[68] In the West, the high-modernist approach to the imagined protein shortage quickly dissipated. Heavily constructed foods soon became grotesque and eventually a thing of popular dystopian fiction: the amphetamine laced milk, 'Moloko Plus,' in Anthony Burgess's 1962 novel *A Clockwork Orange* or 'Soylent Green', the high-protein

[64] Golden, 'Concepts', p. 2121S; World Health Organization, *Management of Severe Malnutrition: A Manual for Physicians and Other Senior Health Workers.* (Geneva: World Health Organization, 1999).
[65] Ann Ashworth, 'Efficacy and Effectiveness of Community-Based Treatment of Severe Malnutrition', *Food and Nutrition Bulletin*, 27.3 (2006), S24-48.
[66] André Briend and others, 'Ready-to-Use Therapeutic Food for Treatment of Marasmus', *The Lancet*, 353.9166 (1999), 1767–68.
[67] For an excellent survey article regarding recent changes in malnutrition care see, Steve Collins and others, 'Management of Severe Acute Malnutrition in Children', *The Lancet*, 368.9551 (2006), 1992–2000.
[68] See especially, Tom Scott-Smith, 'The Fetishism of Humanitarian Objects and the Management of Malnutrition in Emergencies', *Third World Quarterly*, 34.5 (2013), 913–28; Tom Scott-Smith, 'Control and Biopower in Contemporary Humanitarian Aid: The Case of Supplementary Feeding', *Journal of Refugee Studies*, 28.1 (2014), 1–17; For the contextualisation of Plumpy'nut see also, Peter Redfield, 'Bioexpectations: Life Technologies as Humanitarian Goods', *Public Culture*, 24.1 66 (2012), 157–84 (pp. 166–70).

ration made from human remains, in the classic 1973 sci-fi film of the same name.[69] This thinking presaged the more recent 'eco-dietects' or 'food quality' paradigm shift which has moved understandings of nutrition away from the science of nutrients in favour of a more holistic approach to diet rooted in environmentalism or evolutionary anthropology.[70] In the developing world, however, modernist and technical approaches to deficiency were much more resilient and simply shifted with the science of the day. Protein foods were initially manufactured from surplus food residues by big, European companies, exploiting hunger and malnutrition in the space created by the narrative of the protein-gap. In conjunction with the Peruvian government and the FAO, Nestlé made Peruvita. Unigate worked with UNICEF in Northern Nigeria to produce Arlac. Coca-Cola made Saci, a high-protein drink in Brazil. Glaxo produced the peanut-based Amama in Nigeria.[71] Manufactured under licence in France 1994, Plumpy'nut is nothing new but its innovative oil-base and its restrictive licencing earned its enduring status as well questions regarding the ethnics of intellectual property in the realm of humanitarian relief.[72] Plumpy'nut is simply a successful outlier in the long history of commercialised aid, propagated by western industrial concerns and skewed by scientific preoccupations.[73] For instance, when PL480 was passed in 1954 it was envisaged as a precursor to the development of a profitable market for agricultural surpluses.[74] Constructed from those same surpluses, 'nutraceutical' foods now also contribute to these ends. Initially marketed at the third sector, they are now sold directly to the world's poor as a food-free solution to the symptoms of their own poverty.[75]

However, Plumpy'nut has also endured because it perfectly complements the political economy of Africa's adjustment era. Like MUAC bands and CMAM protocols, the efficacy of Plumpy'nut – which aims to bring a child to their target weight in six to ten weeks – has caused its deification amongst humanitarian organisations at the same time as it undermines the state by suggesting that technology and the free market can better

[69] Scott-Smith, 'Defining Hunger', p. 181.
[70] In later years, these ideas have been exported to Africa – again largely through technical projects pursued by NGOs – as part of the food sovereignty and anti-GMO movements. Although there is no room here, these are developments which deserve historical consideration. See, Scrinis, *Nutritionism*; Rebrovick.
[71] Carpenter, *Protein and Energy*, pp. 172–75; Scott-Smith, 'Defining Hunger', p. 213.
[72] For instance, Jim Motavalli, 'Let Them Eat Plumpy'Nut', *Foreign Policy*, 8 October 2009 <https://foreignpolicy.com/2009/10/08/let-them-eat-plumpynut/> [accessed 15 June 2016].
[73] Scott-Smith, 'Defining Hunger', p. 333.
[74] Ruttan.
[75] Alice Street, 'Food as Pharma: Marketing Nutraceuticals to India's Rural Poor', *Critical Public Health*, 25.3 (2015), 361–72.

fill its space.[76] Hospital treatments for malnutrition had been lacking in any case but, established in response to the diminished capacity of the state to provide even these services, CMAM and Plumpy'nut have begun to make state-run nutrition programmes an irrelevancy. RUTFs are an effective palliative to hunger but they also normalise the idea that neither national health services nor their attendant food economies can provide adequate nutrition security, thus justifying the position of internationalist organs which can.[77]

Again we can return to Foucault to consider these changes. Scott-Smith suggests that discussing nutrition supplements with reference to 'biopower' lacks relevance in refugee or crisis contexts 'because many humanitarian activities operate not through a dispersed, productive power, but in the opposite manner: in a way that is top-down, controlling, and paternalistic.'[78] However, in non-crisis contexts, where nutrition care forms an important aspect of everyday maternal and child health programmes, biopower becomes more relevant. As part of an ordinary pursuit of health, RUTFs and internationalist organisations move into the space and appropriate the power which might have been wielded by a functioning healthcare system. It should therefore be no surprise that RUTFs and CMAM grew in prominence under neoliberal governments. They facilitated an increasingly inequitable economy with minimal state involvement in an increasingly individualistic social environment. The irony of 'community-based' approaches to malnutrition served in individual, sealed sachets, donated by foreign governments or aid agencies is particularly tragic when we consider kwashiorkor in its original context, as a disease of social disintegration. In the same way as bottled milk some fifty years earlier, RUTFs have become a crutch to help bear the growing weight of childrearing in modern Africa. Malnutrition is a symptom of a complex of social, political and economic failures and nutritional science can only ever address malnutrition as a symptom of structural shortcomings. Sadly, by doing so, it also abet its continuing causation.

Born from tropical medicine, arranged through colonial networks and based upon a colonised understanding of African diet, at the international level postcolonial nutrition shares a great deal with colonial nutrition. As Sasson and Vernon have explained with reference to the organisation of postcolonial famine relief agencies, 'these experts did not always serve the purpose of the British government and were thus not necessarily neo-colonial.' However, they continued to operate 'on a system of knowledge which was cost-

[76] Scott-Smith, 'Fetishism', p. 926; Tom Scott-Smith, 'Humanitarian Neophilia: The "innovation Turn" and Its Implications', *Third World Quarterly*, 0.0 (2016), 1–23 (p. 9).
[77] Redfield, p. 170.
[78] Scott-Smith, 'Biopower', p. 25.

effective and aimed at creating self-governing subjects.'[79] In much the same way, postcolonial developments in food security and nutrition care were born from colonial knowledge and postcolonial anxieties and were largely designed to circumvent state involvement. Given the tumultuous political environment of postcolonial Africa, this is not necessarily surprising. The MRC's primary overseas nutrition unit was uprooted from its home in Kampala as a result of the Amin dictatorship, eventually relocating to the Gambia in 1973.[80] African political agency also had the potential to divert the imperialistic form of bio-politics previously regulated by tropical medicine and colonial health care. Again, this does not necessarily mean that postcolonial science was neo-colonial but, in much the same was as under colonial governance, scientific approaches to hunger and malnutrition had to operate in the space they were allotted by contemporary political economies. The continuing Western dominance of medicine, demography, economics and biology has skewed any debate by forwarding technical fixes and Western involvement as solutions to structural problems born from social disruption. All too often, internationalist approaches addressed hunger and malnutrition in ahistorical and apolitical terms which failed to look beyond narrow economic understandings of food and nutrition insecurity. Flourishing first under colonial rule, the technical approach to famine, food security and malnutrition has peaked with the spread of neoliberal governance. This trend, as de Waal again explains, 'obscures the contradiction between the neoliberal enterprise and the historical fact that effective action against famine has always been achieved by interventionist social and economic programmes.'[81]

[79] Tehila Sasson and James Vernon, 'Practising the British Way of Famine: Technologies of Relief, 1770–1985', *European Review of History: Revue Européenne D'histoire*, 22.6 (2015), 860–72 (p. 868).
[80] Tappan.
[81] De Waal, p. 54.

7. NEOLIBERAL NUTRITION: QUESTIONING THE ENDURANCE OF MALNUTRITION IN A TIME OF ECONOMIC GROWTH, C. 1983-2000

In 1908, the physician and eugenicist Caleb Saleeby's criticism of municipal milk depots in Britain concluded that 'there is no State womb, there are no State breasts, there is no real substitute for the beauty of individual motherhood.'[1] In the context of biopolitics and national inefficiency, these ideas were not particularly popular at the time. In fact, in 1943, Winston Churchill announced that 'there is no finer investment for a community than putting milk into babies.'[2] However, with the emergence of neoliberalism and the promotion of private sector solutions to problems of public health during the 1970s and 1980s, similar ideas to Saleeby's started to gain traction. In fact, it was abandonment of state milk provision in 1971 which earned Margaret Thatcher, then Education Secretary and later one of the greatest proponents of small-state-free-market development, her 'milk snatcher' sobriquet.[3]

Neoliberalism can be defined as the retreat of the state from the provision of milk, healthcare, education, social security or any other aspect of domestic reproduction. Under the neoliberal model it is considered that these commodities, and human well-being in general, is best provided by the advancement of entrepreneurial freedom, personal rights over private property, an unencumbered market and the free movement of capital. Following the global economic downturn of the 1970s and the ensuing global debt crisis, economic elites and later prominent governments shifted from Keynesian interventionism to a neoliberal doctrine which suggested that the benefits of an unbridled market would eventually 'trickle down' to the poor. In a hugely influential World Bank paper, Elliot Berg explained that Africa's economic crisis derived from governmental involvement in the economy, from protectionism and price subsidisation.[4] Named for the home of the IMF, the World Bank and the US treasury, the Washington Consensus formed around these ideas, ultimately dictating the terms by which the IMF would finance reconstruction in Africa and elsewhere in the developing world. What

[1] Quoted in, Davin, p. 29.
[2] Quoted in, Deborah M. Valenze, *Milk: A Local and Global History* (New Haven: Yale University Press, 2011), p. 254.
[3] This was for children over seven. Free milk for secondary school pupils had already ended, in 1968, under a Labour government also bowing to the growing neoliberal consensus. But this does rather ruin the metaphor.
[4] Elliot Berg.

emerged were the Structural Adjustment Programmes (SAPs) which, by 1991, had been implemented in thirty African states.[5]

However, the abandonment of statist social insurances and the promotion of the productive economy demanded cash-earning and increased market involvement. The highly individualised pursuit of capital impacted on the value of social reproduction, domestic labour and subsistence industry, creating space for family and gender conflict, new forms of poverty and social and spatial inequality. Anthropological accounts have spoken to the depth of economic restructuring and the cultural impositions which accompanied neoliberal change.[6] This chapter follows this line of thought. Since food is a fundamental aspect of culture, patterns of diet and malnutrition grant insight into the processes of domestic reproduction and social survival. Moreover, and as was especially visible during the overt alien oppression of colonial government, the ways in which the state or the supra-state approach hunger, malnutrition and poverty are always influenced and perhaps even compromised by the culture from which they emerged.

a. Assessing the distribution of malnutrition under adjustment

In the wake of its economic collapse and in order to qualify for World Bank loans, in April 1983 Ghana implemented IMF plans for sweeping economic change. This included immediate 'stabilisation' policies to quickly fix macroeconomic imbalances and longer-term 'adjustment' policies to encourage investment, improve efficiency and promote sustainable growth. The Economic Recovery Programme (ERP), as Ghana's adjustment programme was known, included massive social service cuts and staff retrenchment, exchange rate adjustment though the discrete devaluation of the cedi, the abandonment of domestic price controls, privatization of state owned enterprise, a huge export drive, rehabilitation of economic infrastructure and the broadening of the tax base. Macroeconomic growth under adjustment began strongly and the budget deficits which had haunted previous governments were replaced with a small surplus by the late 1980s. Rapid and consistent GDP/capita growth in the twenty years following adjustment [see Chapter 5 Figure 5.1] was matched by similarly significant reductions in inflation, repairs

[5] For the history of neoliberalism see, David Harvey, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2005).

[6] See, for instance, Jean Comaroff and John L. Comaroff, 'Millennial Capitalism: First Thoughts on a Second Coming', *Public Culture*, 12.2 (2000), 291–343; James Ferguson, *Global Shadows: Africa in the Neoliberal World Order* (Durham, N.C.: Duke University Press, 2006); James Pfeiffer and Rachel Chapman, 'Anthropological Perspectives on Structural Adjustment and Public Health', *Annual Review of Anthropology*, 39.1 (2010), 149–65.

to structural imbalances, growth in the provision of goods and services, generation of donor confidence and the attraction of foreign investment.[7] In terms of how the ERP reformed the macroeconomy, Ghana has been regarded as the World Bank's 'star pupil' and has been referred to as the model for African adjustment.[8]

Despite providing macroeconomic growth and stability, adjustment policies in Ghana had troubling social consequences.[9] Amongst them was the enduring prevalence of malnutrition. In fact, the Catholic Relief Service's (CRS) Growth Surveillance System, the only nutrition monitoring system in place in the early 1980s, saw a decline in the nutritional status of Ghanaian children attending child welfare clinics over a short period immediately after adjustment. In 1980, 36 percent of children aged 7 to 42 months were below 80 percent of the US National Centre for Health Statistics (NCHS) weight-for-age (underweight) standard. By 1983, at the height of economic crisis, this figure exceeded 50 percent.[10] Although CRS measurements of clinic attendees suggests that, by 1986, nutritional status had returned to the 1980 level, a national nutrition survey undertaken by the Ghana Government in conjunction with UNICEF found that 58 percent of children under 5 years were below 80 percent of the NCHS weight-for-age standards. This was roughly double the figure found in the 1961-2 national nutrition survey. More troubling still was the eight percent of children across the country suffering from clinical manifestations of marasmus or kwashiorkor, an incidence around twice as high as was seen in other low-income countries. Malnutrition in these years continued along the north-south nutrition divide, with 64 percent of children underweight in the Northern savannah and 48 percent in the coastal zone. By 1989, the World Bank's conclusion regarding malnutrition in Ghana was that 'the problem is serious and getting worse.'[11]

i. Surveying anthropometric change, 1988-2003

With a diminished national capacity to address the problem of worsening nutrition, overseas governments and internationalist donors began to survey the problem instead. The Ghana Living Standards Surveys (GLSS), a World Bank Living Standards Measurement Study (LSMS) conducted in conjunction with the Ghana government;

[7] The best account of adjustment in Ghana is, Eboe Hutchful, *Ghana's Adjustment Experience: The Paradox of Reform* (Oxford: James Currey, 2002).
[8] Eboe Hutchful, 'Why Regimes Adjust: The World Bank Ponders Its "Star Pupil"', *Canadian Journal of African Studies*, 29.2 (1995), 303–17.
[9] Kwadwo Konadu-Agyemang, 'The Best of Times and the Worst of Times: Structural Adjustment Programs and Uneven Development in Africa: The Case Of Ghana', *The Professional Geographer*, 52.3 (2000), 469–83.
[10] CRS figures quoted in, Lavy and others, p. 3.
[11] World Bank, *Ghana: Population, Health and Nutrition* (Washington, D.C.: World Bank, 1989), pp. 1–105 (p. 53).

Ghana's Demographic Health Surveys (GDHS), part of the worldwide USAID-funded DHS series; and the Multiple Indicator Cluster Surveys (MICS), a similar UNICEF survey, all collect anthropometric data to suggest the incidence of malnutrition across the country. Undertaken intermittently since the late 1980s, alongside anthropometry, these surveys collect data on a range of economic, demographic and health problems, ultimately providing a remarkably consistent and focused insight into the demographics and microeconomics of nutritional stress.

This data is therefore something which clearly needs to be addressed. Standard definitions categorise acute malnutrition, or wasting, as a low weight-for-height and chronic malnutrition, or stunting, as a low height-for-age. Clinical malnutrition begins at two standard deviations (SDs) below the WHO's 2006 Multicentre Growth Reference Study (MGRS) reference median. Children presenting with measurements between two and three SDs below WHO standards may be considered 'moderately' malnourished, with 'severe' malnutrition beginning at three SDs below.[12] The population's average nutritional status can be taken as the mean deviation from the WHO standard. Using the four DHS surveys undertaken in Ghana between 1988 and 2003, there are some clear and consistent nationwide patterns. Both acute and chronic malnutrition are more common in the North than the South, the countryside than the city and amongst the poor rather than the wealthy. Stunting is considerably more common than wasting and average height-for-age figures deviate further from WHO standards than weight-for-height, suggesting that sustained undernutrition, rather than periodic severe shortfalls, is the dominant pattern.

More specific results for our particular areas of interest – Accra, Ashanti and the three savannah regions – are less apparent, and it should also be borne in mind that the amalgamated Northern data actually hides significant variation across the individual regions [Figures 7.1-7.4]. However, there are some clear if superficial trends which can be borne in mind going forwards. Aside from in the North – which saw a sharp decline in the average weight-for-height and increasing levels of moderate but not severe wasting between 1988 and 1993 – average weight-for-height figures generally improved during these years, with regional disparities narrowing into the 2000s. However, these average figures hide the incidence of clinical wasting, which rose steadily in Accra in particular, with consistent increases of severe wasting too. Despite a steady fall in the aggregated

[12] That growth standards are, in themselves, of questionable worth is something which has long been discussed [see Introduction]. However, growth standards offer an appropriate guideline for measuring longitudinal change in population nutrition.

incidence of clinical wasting, the number of severely wasted children in Ashanti also increased between 1988 and 2003. Perhaps surprisingly, only Northern Ghana saw a net decline in severe wasting over these years. Although nutrition indicators for the average child in Accra and Ashanti improved, the parallel increase in extreme wasting may well speak to a trend of growing inequality. As an indicator of long-term malnutrition, average height-for-age figures are more reflective of the incidence of clinical stunting. Average height-for-age measures for all three areas improved between 1988 and 1998, before falling slightly between 1998 and 2003. Clinical chronic malnutrition also follows this general pattern aside from in Ashanti where, in 2003, clinical stunting and average deviation from the WHO height-for-age standard actually worsened against the 1988 figure.

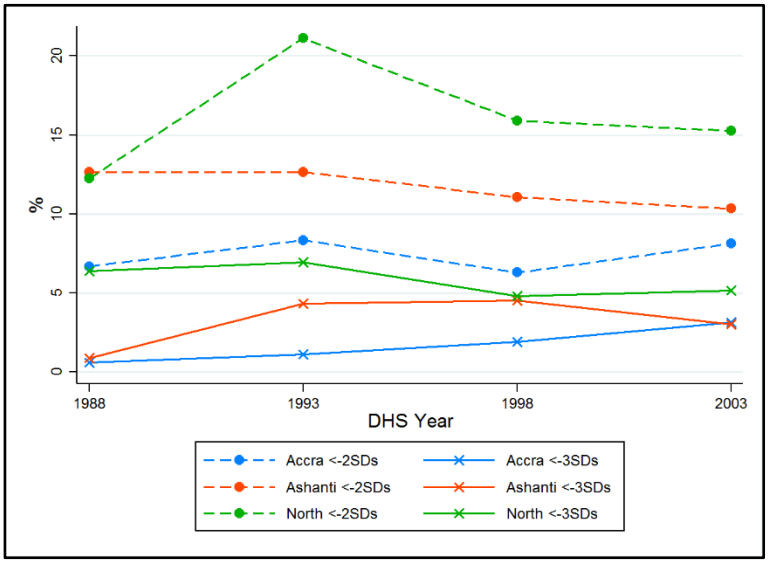


Figure 7.1: Incidence of wasting (weight-for-height) for children <36 months in the North, Ashanti and Accra as SDs from WHO median, 1988-2003
Source: GDHS, 1988-2003

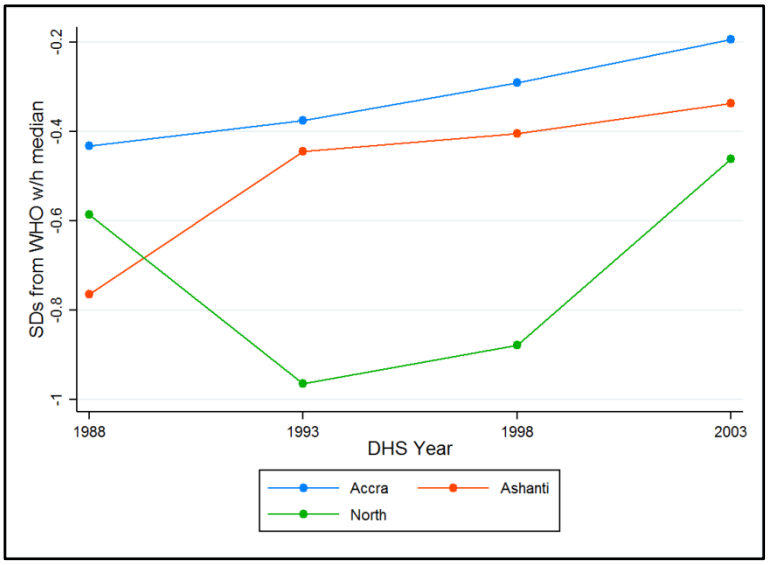


Figure 7.2: Average weight-for-height figures (as mean SDs from WHO median) for children <36 months, 1988-2003
Source: GDHS, 1988-2003

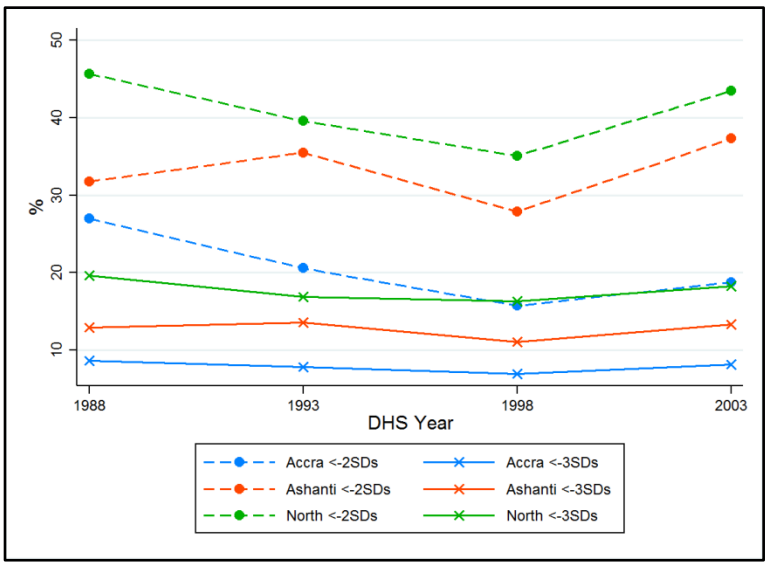


Figure 7.3: Incidence of stunting (weight-for-height) for children <36 months in the North, Ashanti and Accra as SDs from WHO median, 1988-2003
Source: GDHS, 1988-2003

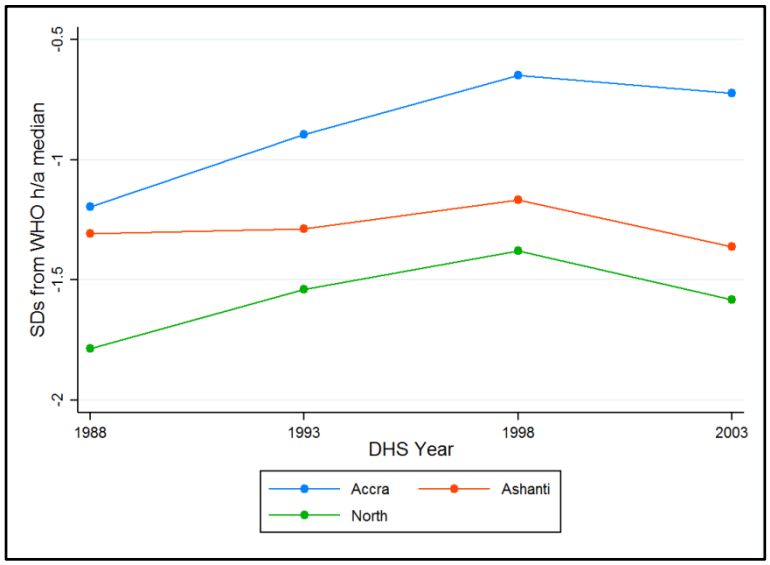


Figure 7.4: Average height-for-age figures (as mean SDs from WHO median) for children <36 months, 1988-2003
Source: GDHS, 1988-2003

From these surveys, or more correctly from the four undertaken between 1993 and 2008, Amugsi et al conclude that the decline in child malnutrition in Ghana was statistically significant, albeit with some demographic peculiarities, perhaps most importantly the narrowing of the urban/rural disparity.[13] Although not precisely matching our survey selection, the data largely reproduced in this thesis leaves no reason to doubt these general conclusions. However, in view of Ghana's deeper anthropometric history, more pressing questions do emerge. In the 1950s and 1960s, years of fairly consistent GDP/capita growth, Ghanaian heights also increased, and largely in parallel with macroeconomic indicators [Chapter 5, Figure 5.1]. However, between 1988 and 2003, when GDP/capita increased by nearly fifty percent, the very modest improvement in average infant growth rates can only be seen as a disappointment [Figure 7.5]. Although the adult heights of women born during these years increased, growth was clearly restrained compared to the recent past. This might suggest that GDP/capita was not as accurate a bellwether for standards of living as it once had been, perhaps also pointing to new dislocations between macroeconomy and nationwide nutritional status. These years saw marked growth not just in the economy but also in the country's health indicators. For instance, under-five mortality dropped form 138 per thousand in 1988 to 91 per thousand in 2003, yet the incidence of clinical malnutrition remained remarkably flat [Figure 7.6].[14] It is certainly beyond this thesis, and perhaps even beyond the data, to explain the various longitudinal variations in anthropometry during this period. What there is space to do is to address two more pressing issues – why has malnutrition remained so prevalent in spite of all of this growth? And why has nutrition not improved in spite of all of this surveying?

[13] Dickson A. Amugsi, Maurice B. Mittelmark and Anna Lartey, 'An Analysis of Socio-Demographic Patterns in Child Malnutrition Trends Using Ghana Demographic and Health Survey Data in the Period 1993–2008', *BMC Public Health*, 13 (2013), 960.

[14] The GDHS gives contrary figures which actually suggests a slight rise in infant and child mortality between 1998 and 2003, despite this, under five mortality fell from 155-111 between 1988 and 2003.

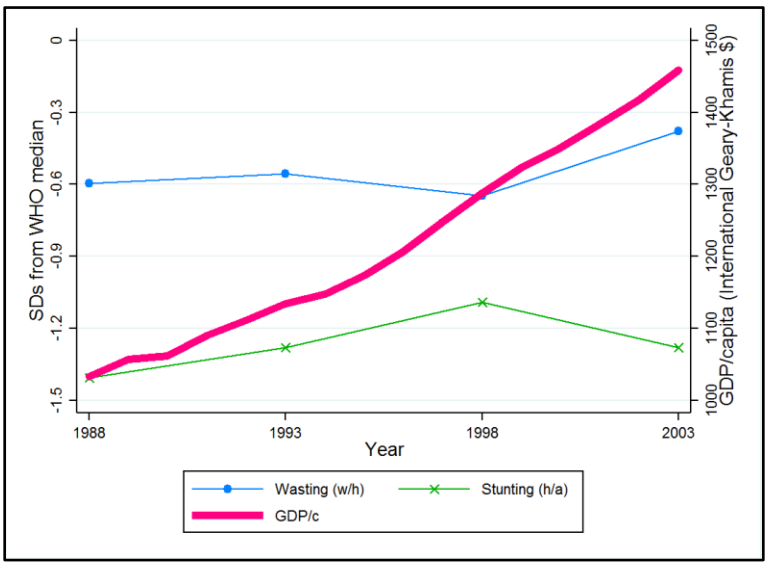


Figure 7.5: Average all-Ghana growth figures (as mean SDs from WHO medians) for children <36 months as compared to GDP/capita, 1988-2003
Source: GDHS, 1988-2003; GDP/c from Bolt and van Zanden.

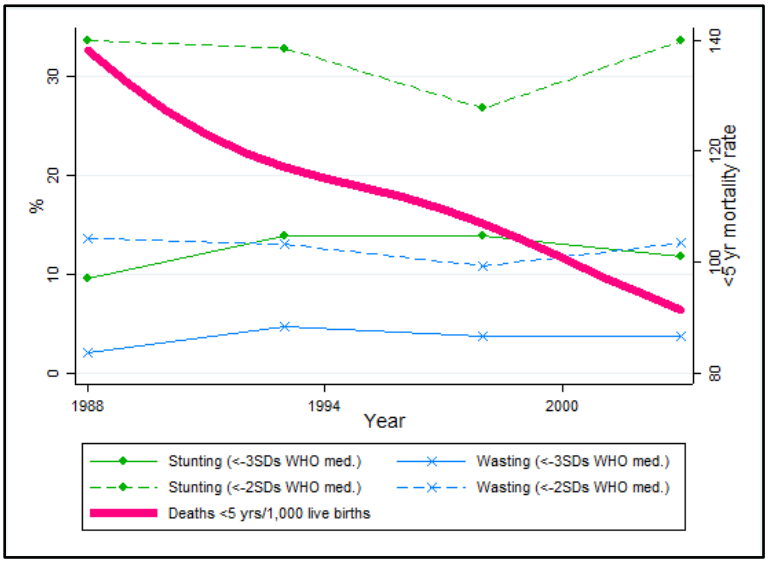


Figure 7.6: Incidence of stunting (height-for-age) and wasting (weight for height) for children <36 months across Ghana as compared to under 5 year mortality rate, 1988-2003
Source: GDHS, 1988-2003; mortality data from <https://data.worldbank.org> [accessed 4 January 2016]

ii. Anthropometry and empiricism

Since the late 1980s, the era of unprecedented internationalist collaboration, cross-sectional anthropometry surveys have become central to nutrition strategy in Ghana and elsewhere in the developing world. However, given the often overtly politicised medical history of nutrition and the complex historical epidemiology of malnutrition, we should not fail to question the global ascendency of DHS nutrition indicators and the empiricism of survey-based nutrition studies.

One important question, especially for a geospatial history of nutrition, is the level to which cross-sectional studies can accurately suggest the incidence of malnutrition in a given population. Sample sizes are the key problem here. For instance, in the 1998 GDHS, the three northernmost regions accounted for 74 of Ghana's 400 clusters. On average, we have anthropometric data for only 11 children under the age of three years in each one of these clusters. However, anthropometric studies require large sample sizes in order to accurately estimate the population mean – a sample of a thousand will, generally, lie closer to the real average that a sample of a ten. In order to judge the adequacy (or inadequacy) of GDHS samples at a given degree of geospatial detail, we need to estimate the number of observations (n) necessary to achieve a 95 percent confidence interval (CI) of length (l) at, for instance, 0.5, 1 or 2 centimetre deviations from either side of the mean. If we were to run repeated samples at a 95 percent confidence interval, our sample will contain the population mean 95 percent of the time. As children are exposed to more heterogeneous environments in the weeks and months after birth, the range of anthropometric measurements grows quickly. Due to limited variation in the measurements of full-term new-borns, standard deviations (SDs) and requisite sample sizes are also small with, for example, an SD of only 1.91 centimetres for new-born girls according to the WHO MGRS standard. For these children, with normally distributed heights, confidence intervals can be calculated as:[15]

$$n = \left[1.96 \left(\frac{1.91}{l} \right) \right]^2$$

This means that to have 95 percent confidence in our sample's accuracy at SDs of 0.5, 1 and 2 centimetres we need samples of 56, 14 and 4 children respectively. By the time that girls reach 36 months of age SDs are larger (4.04 centimetres by WHO standards) and we need larger sample sizes in order to accurately estimate the population mean. In this

[15] n.b., 1.96 is used because 95 percent of the area under a normal distributions lies within 1.96 SDs of the mean.

case, 251, 63 and 16 for the same degree of accuracy. For the entire age group, 0-36 months, we can more or less split the difference. A two centimetre deviation from the average population height is significant even in adults – it took twentieth-century Europeans around three decades to average such an increase – for children, two centimetres is a much more significant deviation. With this in mind, we have to approach GDHS anthropometry with caution. In 1998, the average number of anthropometric observations per region was only 166, in 2003 it was 191. These sample sizes are probably adequate to suggest regional trends but probably not for sub-regional analyses.[16]

Since the WHO adjusted for skewness in their weight-for-height standard, estimating sample sizes requisite for specific CIs at specific ages is more difficult.[17] However wasting statistics are more reliable with small samples since, although wasting is pegged to variations in height, there is less genetic variation in weight. With this in mind, cluster-level data is more likely to represent the true incidence of wasting in the surrounding population. At least one study has suggested that clinical wasting is more likely to appear repeatedly in individual clusters than stunting which, in comparison with other common anthropometric measures, shows the least association within individual rural villages.[18] However, another study has suggested that the contrary is true and that stunting is more prone to geographical clustering, although the lower incidence of wasting means that the geographical targeting of wasted children would be slightly more effective.[19] A further study found no significant anthropometric clustering in either Abidjan or Accra and questioned the place of the urban environment in this regard.[20] What all of these studies agree on, however, is the fallibility of geographical targeting for malnutrition and the potential for resource leakage should such data inform action. What they highlight, for us, is how difficult it is to trace the granular geographic incidence of malnutrition, even when armed with this data.

[16] I must thank Alexander Moradi for his advice here. WHO MGRS height means taken from, M. de Onis, 'Assessment of Differences in Linear Growth among Populations in the WHO Multicentre Growth Reference Study', *Acta Pædiatrica*, 95 (2006), 56–65.
[17] World Health Organization, WHO Child Growth Standards: Methods and Development (Geneva: World Health Organization, 2006).
[18] Joanne Katz, 'Sample-Size Implications for Population-Based Cluster Surveys of Nutritional Status', *The American Journal of Clinical Nutrition*, 61.1 (1995), 155–60.
[19] Bridget Fenn, Saul S Morris and Chris Frost, 'Do Childhood Growth Indicators in Developing Countries Cluster? Implications for Intervention Strategies', *Public Health Nutrition*, 7.07 (2004), 829–834.
[20] Saul S. Morris and others, 'Does Geographic Targeting of Nutrition Interventions Make Sense in Cities? Evidence from Abidjan and Accra', *World Development*, 27.11 (1999), 2011–19.

Part of the problem is the multifaceted aetiology of malnutrition. Over the course of dozens of cross-sectional studies, childhood malnutrition has been linked with maternal education, paternal employment, maternal employment, breastfeeding practices, the prevalence of disease or clean water supply or sanitation. Demographic characteristics, such as mother's age at childbirth, the child's sex and age at time of survey and the length of birth spacing have also all proved significant.[21] However, correlating nutrition indicators with such explanatory factors is not straightforward. Information which intersects with infant anthropometry, such as details of previous illnesses or of present childcare practices, are derived from interviews and susceptible to recall errors.[22] For instance, literate mothers have been found to report the incidence of child morbidity more readily than illiterate mothers.[23] A higher-order problem is that such surveys generally work with rigid definitions and cannot account for more flexible realities. For instance, 'households' are generally defined as a closed unit in the DHS and in living standards surveys. However this definition precludes cross-household entitlements which are often central to the mitigation of hunger, poverty and the burdens of childrearing.[24]

Perhaps more importantly, the many factors which subtly dictate growth can prove both spatially isolated and temporally transient. As a representation of acute malnutrition, a high local incidence of wasting may, for instance, reflect a bout of infectious disease.[25] In the savannah, where wasting can follow a poor harvest, bumper crop and breadline may be separated by a dozen miles or a few more able bodies on the farm [see Chapter 4]. Sanitation, water supply and health provisioning are less transitory but cluster locally,

[21] See, amongst very many other papers, Harold Alderman, *Nutritional Status in Ghana and Its Determinants*, Social Dimensions of Adjustment (Washington, D.C.: World Bank, 1990), pp. 1–52; Lisa C. Smith and Lawrence J. Haddad, *Explaining Child Malnutrition in Developing Countries: A Cross-Country Analysis*, FCND Discussion Paper (Washington, D.C.: International Food Policy Research Institute, 1999); Venanzio Vella and others, 'Determinants of Nutritional Status in South-West Uganda', *Journal of Tropical Pediatrics*, 41.2 (1995), 89–98; S.A. Esrey and others, 'Drinking Water Source, Diarrheal Morbidity, and Child Growth in Villages with Both Traditional and Improved Water Supplies in Rural Lesotho, Southern Africa.', *American Journal of Public Health*, 78.11 (1988), 1451–55; E.A. Frongillo, M. de Onis and K.M. Hanson, 'Socioeconomic and Demographic Factors Are Associated with Worldwide Patterns of Stunting and Wasting of Children', *The Journal of Nutrition*, 127.12 (1997), 2302–9.

[22] Sian L. Curtis, *Assessment of the Quality of Data Used for Direct Estimation of Infant and Child Mortality in DHS-II Surveys*, DHS Occasional Papers (Calverton, MD: Macro International, 1995), pp. 1–73.

[23] Alireza Olyaee Manesh and others, 'Accuracy of Child Morbidity Data in Demographic and Health Surveys', *International Journal of Epidemiology*, 37.1 (2008), 194–200.

[24] Sara Randall and Ernestina Coast, 'Poverty in African Households: The Limits of Survey and Census Representations', *The Journal of Development Studies*, 51.2 (2015), 162–77.

[25] See, for instance, Joanne Katz and others, 'Estimation of Design Effects and Diarrhea Clustering within Households and Villages', *American Journal of Epidemiology*, 138.11 (1993), 994–1006.

determined by infrastructure at a very local level.[26] At the same time, the uptake of best practice has been seen to mitigate environmental problems but also varies from person to person.[27] As an indicator of chronic malnutrition, stunting is influenced by these same spatial determinants but is a better reflection of less transient, perennial problems which can be seen to concentrate along broad spatial differences in climate or economy. However, as an indicator of inadequate feeding over the long-term, stunting in non-crisis environments generally results from a familial-level failure to provide. Though the most practical and cost-effective method of assessing malnutrition and its determinants, cross-sectional data can only capture a partial and perhaps fleeting snapshot of the sufferers, their families, their burdens and their resources.[28]

In some respects, and although not referring to infant anthropometry, these considerations may be reminiscent of the debate started by David Seckler in the early 1980s. Seckler suggested that small adult height was a 'low cost' adaptation to nutritional deprivation and that those individuals considered 'malnourished' by international height-weight standards may actually be better considered 'small but healthy.'[29] Although popular for a time, these ideas have fallen from vogue as there is strong evidence to suggest that the costs of small size, in terms of health and longevity, outweigh any advantage offered by reduced energetic requirements.[30] Still, these ideas do lead us to consider whether the use of anthropometric standards leave even ostensibly objective studies of malnutrition over-reliant upon constructed ideas of normalcy.[31] This potentially reductive understanding of malnutrition has to be seen as a facet of biomedicine, 'increasingly oriented towards bringing about the normal,

[26] G. Benneh and others, *Environmental Problems and the Urban Household in the Greater Accra Metropolitan Area* (Stockholm: Stockholm Environment Institute, 1993); Kwasi Owusu Boadi and Markku Kuitunen, 'Environment, Wealth, Inequality and the Burden of Disease in the Accra Metropolitan Area, Ghana', *International Journal of Environmental Health Research*, 15.3 (2005), 193–206.

[27] Marie T. Ruel, Carol E. Levin, and others, 'Good Care Practices Can Mitigate the Negative Effects of Poverty and Low Maternal Schooling on Children's Nutritional Status: Evidence from Accra', *World Development*, 27.11 (1999), 1993–2009.

[28] Randall and Coast, p. 173.

[29] David Seckler, 'Small but Healthy: A Basic Hypothesis in the Theory, Measurement and Policy of Malnutrition', in *Newer Concepts in Nutrition and Their Implication for Policy*, ed. by P.V. Sukhatme (Pune, India: Maharashtra Association for the Cultivation of Science Research Institute, 1982), pp. 127–137.

[30] See, for instance, Reynaldo Martorell, 'Body Size, Adaptation and Function', *Human Organization*, 48.1 (1989), 15–20.

[31] For a discussion of some of these problems in historical context see, M. de Onis and R. Yip, 'The WHO Growth Chart: Historical Considerations and Current Scientific Issues', *Bibliotheca Nutritio Et Dieta*, 1996, 74–89.

confusing a statistical construct with true wellbeing.'[32] Although we can recognise that anthropometric indices are valuable indicators of nutritional stress, we might acknowledge that, for our ends, anthropometric data is best not used in isolation. We should, therefore, consider empirical approaches to malnutrition in view of precise historical and geographical contexts and in conjunction with small-scale studies which recognise more flexible methodologies as well as narrative accounts which can better speak to lived experience.

Although the value of nutrition surveys should not be understated, it is also important to remember that their value is understood in the context of retrenched healthcare, small government and international involvement. The mid-century experience suggests that economic growth, unaccompanied by rapidly rising inequality, was associated with broadly improving nutritional standards. By contrast, the global ascendency of nutrition surveying, as well as targeted interventions determined by the notional precision of such surveys, can be seen as part of a potentially troubling process which promotes efficiency, cost-effectiveness and individual agency in healthcare over its visibility or accessibility. As a system of passive surveillance, the DHS forms part of a new culture of hyper-efficient nutrition care which, like CMAM and RUTFs [Chapter 6], normalises the prevalence of malnutrition as well as the state's inability to confront it.[33] Nutrition surveillance is then part of a larger trend, a shifting of biopower from the national to the international and from the reactive paternalism of statist governments to a more passive faith in the individual and the market.

b. Understanding the resilience of malnutrition under adjustment: defining a place for poverty

With its complex social aetiology often confusing analyses of malnutrition, the pervasion of poverty is usually seen as steadfast, with studies from Ghana and elsewhere in the developing world emphasising poverty as the most important determinant of malnutrition.[34] Controlling for a range of geographical, environmental and demographic

[32] Margaret Lock and Vinh-Kim Nguyen, *An Anthropology of Biomedicine* (Oxford: Wiley-Blackwell, 2010), p. 45.
[33] Redfield, p. 170.
[34] Ellen Van de Poel and others, 'Malnutrition and the Disproportional Burden on the Poor: The Case of Ghana', *International Journal for Equity in Health*, 6 (2007), 1–12; Rathavuth Hong, 'Effect of Economic Inequality on Chronic Childhood Undernutrition in Ghana', *Public Health Nutrition*, 10.04 (2007), 371–78; Nguyen Minh Thang and Barry M. Popkin, 'In an Era of Economic Growth, Is Inequity Holding Back

factors contained in the 2003 GDHS survey, Hong, for instance, found that Ghanaian children living in the poorest 60 percent of households were more than twice as likely to be chronically undernourished as those born in the wealthiest 20 percent of households.[35] With this in mind, can enduring poverty account for the endurance of malnutrition following adjustment?

The majority of the literature regarding poverty over these years is drawn from the Ghana Living Standards Survey (GLSS), run in conjunction with the World Bank. The first GLSS, undertaken in 1987/8, found that nearly 80 percent of poverty was in rural areas, where 43 percent of people lived below the defined national poverty line, as compared to 27 percent of non-Accra urban residents and only 4 percent of Accra residents.[36] The savannah zone accounted for most of this poverty, followed by the forest and then the coast. These conclusions correlate closely with the general patterns seen in anthropometry data from the 1988 GDHS. However the significant nationwide decline in poverty – from 36.9 percent in 1987/8 to 31.5 percent at the 1991/2 third round of the GLSS – belies the only modest improvements in anthropometric indicators as well as the increase in severe stunting and wasting [Figures 7.5 and 7.6]. More strikingly, between these two surveys the proportion of rural people living below the poverty line decreased from 41.9 to 33.9 percent at the same time as the incidence of clinical wasting increased in the countryside from 9.8 percent to 15.5 percent, with clinical stunting rising from 34.8 percent to 37.2 percent too.[37] At the end of the 1990s, the Ghana Statistical Service concluded from GLSS data that the general trend was one of significant poverty decline, from 52 to 40 percent, as well as a significant decline in extreme poverty, from 37 to 27 percent.[38] The greatest declines in poverty were concentrated in Accra and the rural forest. However, these conclusions were not reflected in infant growth. Average nutritional status and the incidence of clinical malnutrition did not see ten percent declines, in fact severe acute malnutrition grew in Accra and Ashanti, the centres of poverty reduction [Figures 7.1-7.4]. If poverty is truly the primary determinant of malnutrition then why did it endure in the face of these considerable poverty reductions?

Reductions in Child Malnutrition in Vietnam?', *Asia Pacific Journal of Clinical Nutrition*, 12.4 (2003), 405–10.

[35] Hong, p. 375.

[36] E. Oti-Boateng and others, *A Poverty Profile for Ghana, 1987–88*, Social Dimensions of Adjustment in Sub-Saharan Africa Working Paper, 5 (Washington, D.C.: World Bank, 1990).

[37] Hutchful, *Adjustment Experience*, pp. 124–25.

[38] Ghana Government, *Poverty Trends in Ghana in the 1990s* (Accra: Ghana Statistical Service, 2000).

i. Malnutrition, asset-poverty and the political economy of poverty-reduction

Part of the problem is that the quantification of poverty is imperfect and often relies on politically subjective definitions. Most cross-sectional surveys, such as the GLSS, conceptualise poverty in the sense of horizontal disparities in assets, income or consumption. Often this is explained in terms of inter-regional or urban/rural differences.[39] However, if poverty can also be understood as an inability to meet the various necessities of life in a given society, this approach relativizes poverty across spaces which cannot be plainly compared. In much the same way that cross-sectional analyses of the determinants of malnutrition can never fully capture the subtle epidemiology of nutritional disease, the quantification of poverty downplays the geographical and temporal contexts which define social dimensions of wealth. The relative value of social support is difficult to quantify, as are the costs of aspirational living and social participation.[40]

As we have already seen, the association between affluence and good nutrition is rarely linear but is refracted by the cultural, social and economic preoccupations of a given time and place. This is clearly true of post-ERP Ghana and is especially apparent in Ashanti Region, where affluence, as defined by the GDHS's wealth quintiles, was fairly evenly distributed. In Ashanti, compiled data for 1993-2003 shows that economic estimations of wealth are a sensitive indicator of average nutritional status. However, this example also suggests that wealth, by this standard at least, does not necessarily prevent or precede extreme deviations of growth or clinical nutritional illness [Figure 7.7]. In their study of Ghanaian malnutrition, Van Poel et al conclude that variations in wealth were responsible for about one third of the socioeconomic inequality in malnutrition and recognise that poorer children are more likely to live in regions with disadvantageous characteristics. However they also emphasise that, 'given the strong regional associations with malnutrition, after controlling for a broad range of socioeconomic and demographic covariates, there must be other important regional aspects'[41] Elsewhere, such as Côte d'Ivoire, Glewwe and Van der Gaag have shown that neither stunting nor wasting correlate with economic indicators of poverty, concluding that 'malnourishment is only one of many negative consequences of poverty.'[42]

---

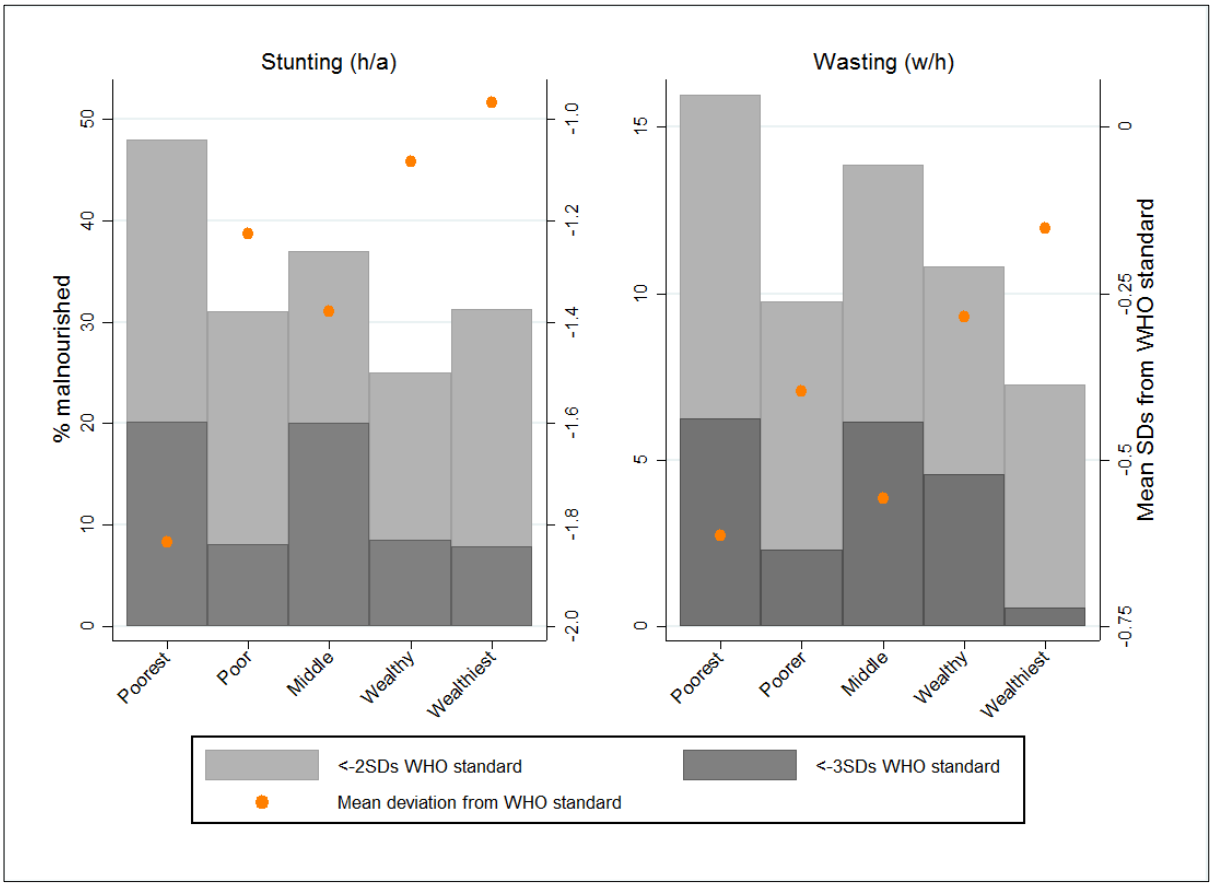
[39] Hutchful, *Adjustment Experience*, pp. 120–24; Ghana Government, *Poverty Trends*.

[40] Howard White, 'Combining Quantitative and Qualitative Approaches in Poverty Analysis', World Development, 30.3 (2002), 511–22; Randall and Coast, p. 164.

[41] Van de Poel and others, p. 9.

[42] Paul Glewwe and Jacques van der Gaag, 'Identifying the Poor in Developing Countries: Do Different Definitions Matter?', *World Development*, 18.6 (1990), 803–14 (pp. 807, 812).

Figure 7.7: Incidence of malnutrition and average deviation from WHO growth standards by wealth quintiles, Ashanti Region, 1993-2003 combined
Source: GDHS 1993-2003



In spite of these shortcomings, asset-based definitions of poverty came to dictate poverty alleviation programmes and, by extension, direct the debate on the relationship between poverty and nutrition. However, international concentration on income poverty is suggestive of a more fundamental politics of poverty. Paul Cammack, for instance, has explained that the by using narrow, asset-based definitions, the World Bank's poverty reduction strategy simply reflects a broader international development programme which focused on proletarianisation and increasing the productive capacity of the poor in the global market.[43] Although we should be cautious about the wholesale adoption of these conclusions, there is no reason to doubt that the definitions and discourses regarding poverty and its attendant social ills were constructed with reverence to the neoliberal consensus from which they emerged. Indeed, in post-adjustment Ghana, these were definitions of poverty which helped focus poverty-relief on the soft-poor, not

[43] Paul Cammack, 'What the World Bank Means by Poverty Reduction, and Why It Matters', *New Political Economy*, 9.2 (2004), 189–211 (p. 206).

necessarily the structural poor, or those most likely to suffer food insecurity or malnutrition.

Sparked initially by the work of UNICEF, the World Bank's recognition of the rise of malnutrition in the late 1980s was part of their broader acknowledgement that adjustment policies tended to increase levels of poverty and do little to ameliorate its more immediate effects. In Ghana, as elsewhere, increases in poverty concentrated amongst the most vulnerable groups, the structural poor, those with the least social capital or the least able to readily modify their incomes. Female-headed households, pregnant and nursing women, children, the elderly and the disabled were seen to be the most affected. [44] Although, for most Ghanaians, standards of living following restructuring were not worse than in the early 1980s they had not improved much either. It was understood that adjustment had strengthened the economy but, unlike economic growth in the 1960s and 1970s, growth under the ERP conferred little in the way of social security. For Rawlings' fragile government and the World Bank's nascent African adjustment experiment this juncture presented a problem.

Informed by both economic reality and political pragmatism, adjustment programmes around the world began to include 'pro-poor' policies in the context of 'adjustment with a human face.'[45] Over the course of the 1980s and 1990s, pre-existing programmes were adapted to address the long-term economic integration of the poor as well as the short-term amelioration of the more immediate effects of adjustment. With monetarist Western sponsors reluctant to encourage direct transfers of capital or food, pro-poor policies prioritised investments in human and productive capital, with direct spending to be tightly targeted, highly visible and cost-effective or, ideally, revenue-generating. This allowed for the prioritisation of a certain type of deserving poor or, in World Bank parlance, a 'new poor, who were in higher socio-economic categories before the economic crisis and subsequent adjustment, but who have fallen into poverty as a result.'[46] The new poor was made up of disproportionate numbers of young or low-grade public servants who had been recently retrenched. Often skilled and educated, as well as

[44] UNICEF, 'Adjustment Policies and Programmes to Protect Children and Other Vulnerable Groups in Ghana', in *Adjustment with a Human Face: Country Case Studies*, ed. by Giovanni Andrea Cornia, Richard Jolly, and Frances Stewart, 2 vols (Oxford: Clarendon Press, 1987), II, 93–125; UNICEF and Ghana Government, *Children and Women of Ghana: A Situation Analysis 1989-90.* (Accra: UNICEF, 1990).
[45] See, for instance, Frances Stewart, 'The Many Faces of Adjustment', *World Development*, 19.12 (1991), 1847–64.
[46] World Bank, The Social Dimensions of Adjustment in Africa: A Policy Agenda (Washington, D.C.: World Bank, 31 March 1990), pp. 1–34 (p. 5).

politically articulate, they were both a potential boon and a potential threat to the process of adjustment.

Built around what might be considered a cynical approach to poverty, in 1987 Ghana's Programme of Actions to Mitigate the Social Costs of Adjustment (PAMSCAD) became the World Bank's first short-term, pro-poor intervention in Africa. However, as a poor-relief programme, PAMSCAD proved largely ineffectual.[47] Set back by modest funding, complicated donor arrangements and inter-ministerial competition, when projects were eventually implemented, they were poorly targeted, inefficiently orchestrated and failed to incorporate local actors.[48] However, poor-relief was not necessarily the Bank or the PNDC's primary rationale for the implementation of PAMSCAD. Instead, policy documentation lamented the 'plight of the poor' but focussed on how the poor might undermine the 'very sustainability of the economic reforms being pursued if inadequate attention is paid to their plight.'[49] Described by one World Bank official in Accra as nothing more than 'a big public relations exercise', officially PAMSCAD was built to ensure the 'sustainability and acceptability of the ERP,' the PNDC and the economics of adjustment.[50] Some funding found its way to high-visibility projects which addressed the needs of the chronic poor but much more was spent on the pacification of political capital. Investments concentrated on the redeployment of retrenched civil servants and the low rate of loan repayments speaks to the use of credit as a political sop rather than as an economic salve. Amongst the political elite, the administration of PAMSCAD dispersed prestige and the (mis)direction of funds curried favour for what was a fairly fragile dictatorship.[51]

ii. Inequality and malnutrition

The 'smoke and mirrors' politicking of PAMSCAD ultimately reflects the same politics of poverty contained in the definitions employed by cross-sectional living standards surveys. By emphasising poverty as an absolute absence of assets or income, these definitions deny poverty as a relative phenomenon and ignore the import of vertical or class-based

[47] Eboe Hutchful, '"Smoke and Mirrors": The World Bank's Social Dimensions of Adjustment (SDA) Programme', *Review of African Political Economy*, 21.62 (1994), 569–84; Samuel K. Gayi, 'Adjusting to the Social Costs of Adjustment in Ghana: Problems and Prospects', *The European Journal of Development Research*, 7.1 (1995), 77–100.
[48] Gayi, pp. 84–93.
[49] Ghana Government, *Programme of Actions to Mitigate the Social Costs of Adjustment* (Accra: Government Printer, 1987), p. 7.
[50] Quoted in, Gayi, p. 97; Ghana Government, *Programme*, p. 8.
[51] Gayi, pp. 93–94.

variations in consumption.[52] However, increasing intra- and interregional inequality was a prominent feature of the post-ERP economy and an important driver of malnutrition.[53]

In terms of interregional inequality, the national-level decline in income poverty over the course of the 1990s was driven by sizeable poverty declines only in Accra and the rural forest. These reinvigorated traditional centres of capital production housed the fastest growing industries post-ERP – cocoa, mining, forestry and services.[54] However, even in these specific locales, the profits of economic growth were not equitably distributed. For instance, rural poverty decline between the late 1980s and early 1990s was concentrated amongst traders enjoying the newly liberalised market, something confirmed by parallel improvements in the wealth of female-headed households.[55] In Accra too, between 1992 and 1999, the average income of the highest-paid 10 percent of workers increased by 6,000 percent. For the poorest 10 percent, the increase was only 38 percent.[56] There was little political or economic interest in addressing the rise of inequality either. Heavy taxation was an assault on entrepreneurship and redistributive transfers a potential precursor of fiscal destabilisation and growth reduction. Instead, income stratification was explicitly encouraged, as an incentive for hard work. International consultants suggested that salary ratios between senior and junior civil servants should increase from 2:1, as was the case in the early 1980s, to 13:1. By 1991, senior civil servants earned ten times as much as their junior colleagues.[57] It was only in the later-1990s that economists brought the general study of wealth distribution 'in from the cold,' with a number of important papers criticising the specific role of inequality as an impediment to poverty reduction.[58] Today, even the IMF questions whether the entire neoliberal project has

[52] Hutchful, *Adjustment Experience*, pp. 120–24.
[53] Franklin Obeng-Odoom, 'Neoliberalism and the Urban Economy in Ghana: Urban Employment, Inequality, and Poverty', *Growth and Change*, 43.1 (2012), 85–109; Ernest Aryeetey and Andrew McKay, 'Growth with Poverty Reduction, but Increased Spatial Inequality: Ghana over the 1990', in *Determinants of Pro Poor Growth: Analytical Issues and Findings from Country Cases*, ed. by Michael Grimm, Stephen Klasen, and Andrew McKay (Basingstoke: Palgrave Macmillan, 2007), pp. 57–80.
[54] Ernest Aryeetey and Andrew McKay, *Operationalizing pro-Poor Growth: A Country Case Study on Ghana* (Washington, D.C.: World Bank, 1 October 2004), pp. 1–72 (p. 17).
[55] Hutchful, *Adjustment Experience*, p. 125.
[56] Obeng-Odoom, 'Neoliberalism', p. 101.
[57] Joseph R.A. Ayee, 'Civil Service Reform in Ghana: A Case Study of Contemporary Reform Problems in Africa', *African Journal of Political Science*, 6.1 (2004), 1–41 (p. 13).
[58] A. B. Atkinson, 'Bringing Income Distribution in From the Cold', *The Economic Journal*, 107.441 (1997), 297–321; Nancy Birdsall and Juan Luis Londono, 'Asset Inequality Matters: An Assessment of the World Bank's Approach to Poverty Reduction', *The American Economic Review*, 87.2 (1997), 32–37; Howard White and Edward Anderson, 'Growth versus Distribution: Does the Pattern of Growth Matter?', *Development Policy Review*, 19.3 (2001), 267–89.

been 'oversold' in respect of its place as a driver of national and international inequality.[59]

It was this growth of inequality which most impacted the Ghanaian poor. Income rose, health improved, at least in terms of longevity, and ownership of consumer durables increased everywhere and for the majority of people. However, since the magnitude of empirical economic improvements was greatest amongst the wealthy and least amongst the poor, reductions in absolute poverty were not necessarily representative.[60] At the turn of the millennium, one narrative study concluded that:

> 'All the sites and groups interviewed felt that their problems have become more severe over the last decade and that if current conditions prevail the problems will worsen in the future. In fact, a gloomy picture of the future has been painted by all.'[61]

Although concerns varied across the country, they all present a view of poverty which extends over time and space, an understanding which accounts for current wellbeing with an eye to the past and to the future. This is because increasing inequality relativizes poverty along a broader scale. The accumulation of wealth and the diversification of consumption at the top emphasises the absence of wealth and constraints on consumption at the bottom.

From the late 1980s, liberalised markets once again filled shops and streets with Western goods but the devaluation of the cedi meant that fewer people could afford them. By 1995, those in the formal economy found real wages were half what they had been in 1970.[62] In the rural forest, declining purchasing power and the falling value of most crops drove migration and the readoption of cocoa.[63] In the savannah, Bataar noted that by the early 2000s;

> 'It looked like a mockery to mothers when I asked them if they give complementary foods, such as baby formula, fresh milk, powdered milk, juice, fruits and other things … [they] lamented that they even find it

[59] Jonathan D. Ostry, Prakash Loungani and Davide Furceri, 'Neoliberalism: Oversold?', *Finance & Development*, 53.2 (2016), 38–41.
[60] Harold Coulombe and Andrew McKay, 'Growth with Selective Poverty Reduction - Ghana in the 1990s', in *Growth and Poverty Reduction: Case Studies from West Africa*, ed. by Quentin Wodon (Washington, D.C.: World Bank Publications, 2007), pp. 9–94.
[61] Ernest Y. Kunfaa, *Consultations with the Poor: Ghana Country Synthesis Report* (Kumasi: CEDEP on behalf of the World Bank, 1999), pp. 1–89 (p. 74).
[62] Ben Fine and Kwabia Boateng, 'Labour and Employment under Structural Adjustment', in *Economic Reforms in Ghana: The Miracle and the Mirage*, ed. by Ernest Aryeetey, Jane Harrigan, and Machiko Nissanke (Oxford: James Currey, 2000), pp. 227–45 (p. 230).
[63] George J.S. Dei, 'The Renewal of a Ghanaian Rural Economy', *Canadian Journal of African Studies*, 26.1 (1992), 24–53 (p. 32).

> very hard buying the basic ingredients such as dawadawa, salt and pepper.'[64]

Into the 1990s it was said that 'many people wonder what has happened to money since the late 1970s,' travel had become prohibitively expensive due to the 200 percent increase in the price of petrol between 1989 and 1994 and a larger proportion of household budgets had to be spent on the same medicines and school fees.[65] The spread of film and television only fed desires which could not be readily satisfied and the struggle to earn and the desire to spend has seeped into Ghanaian popular culture, modifying moral codes and religious mores.[66] Although income inequality was actually greatest in the North, the Northern elite were small and their affluence far less visible.[67] Here, 'well-being is described more in abstract forms, such as being comfortable.' However, in Accra, where conspicuous wealth tended to concentrate, Kunfaa found that the 'poor base their criteria of well-being mostly on ownership of property such as cars, houses, good dresses and money.'[68]

Recently, increased social differentiation has been highlighted as an important determinant of international patterns of disease, with high relative poverty seen as a driver of anxiety, unhappiness, detrimental health behaviours and social dysfunction.[69] In Ghana's Upper West Region, for instance, relative deprivation was concentrated amongst recently returned male migrants. Divided between urban and rural, yet unable to fulfil the responsibilities of either, one wife explained that men were prone to drinking the prophetically-named local gin, '"kill me quick", get drunk and come and beat you on top.'[70] In 1989, in an address to the University of Ghana, Albert Boahen highlighted the economic contradictions which were growing so acutely in Accra;

---

[64] Cuthbert Baataar, *Malnourished Infants in Nandom Rehabilitation Centre: A Case Study of Deficits in Care* (Legon: University of Ghana, 2005), p. 52.
[65] Lynne Brydon and Karen Legge, *Adjusting Society: The World Bank, the IMF and Ghana* (London: Tauris Academic Studies, 1996), pp. 83–84; Konadu-Agyemang, p. 474.
[66] Birgit Meyer, 'Commodities and the Power of Prayer: Pentecostalist Attitudes Towards Consumption in Contemporary Ghana', *Development and Change*, 29.4 (1998), 751–76; Birgit Meyer, 'Visions of Blood, Sex and Money: Fantasy Spaces in Popular Ghanaian Cinema', *Visual Anthropology*, 16.1 (2003), 15–41.
[67] Paul Glewwe and Kwaku A. Twum-Baah, *The Distribution of Welfare in Ghana, 1987-88* (Washington, D.C.: World Bank, 1991), pp. 1–108 (pp. 59–60).
[68] Kunfaa, p. 23.
[69] For instance, M.G. Marmot, *Status Syndrome: How Your Social Standing Directly Affects Your Health* (London: Bloomsbury, 2005); Richard G. Wilkinson and Kate E. Pickett, 'Income Inequality and Social Dysfunction', *Annual Review of Sociology*, 35 (2009), 493–511.
[70] Quoted in Abdul-Korah, '"Only Sons"', p. 398.

> 'It is true that not only the ships but even the streets are full of goods of all sorts, but how many of us can afford them … how many of us have three square meals, or even two, a day today?'[71]

It seems likely that there is a relationship here. Since individual diet and the nutritional health of dependants can be consciously or subconsciously sacrificed in the face of more pressing needs, it is reasonable to assume that open markets and diversifying demands impacted nutrition in view of a broadened scale of relative wealth. New cultures of aspiration, especially in the South, directed expenditure away from food and towards other commodities.

Expenditure surveys suggest this was in fact the case. Food expenditure in the late 1980s and early 1990s presented a similar pattern to that which was seen in the 1950s and 1960s, with Engel's law – the assumption that, as income rises, the proportion of income spent on food falls – still failing to hold true.[72] The result being, as Jane Guyer's re-examination of the problem concludes, that 'the poor person lives a diminished, but otherwise similarly balanced, version of the good life to the better off.'[73] Although the wealthiest urban quintile from across Ghana enjoyed an income nearly three-times as large as the poorest fifth, food still accounted for 66 percent and 63 percent of respective monthly expenditures. Most of this difference was made up by disparities in spending on meat or fish which, even here, were fairly negligible.[74] However, by 1998, Maxwell *et al*'s study of food security in Accra found that the poorest fifth spent 61.1 percent of their income on food and the wealthiest only 40.7 percent. That the income differential between the richest and poorest quintiles had more than doubled in the interceding years probably accounts for most of this difference. This disparity also readily translated into diet, with average caloric intakes ranging from 1,786 calories/day for the poorest fifth to 3,309 for the wealthiest.[75] By the late 1990s, inequalities in income had diverged to the extent that Accra's rich were no longer bound to the food economy in the same was as their forebears. It suggests a social removal from hunger and speaks to a gulf growing between those who have benefitted from adjustment and those who have suffered under it.

---

[71] Boahen, p. 51.

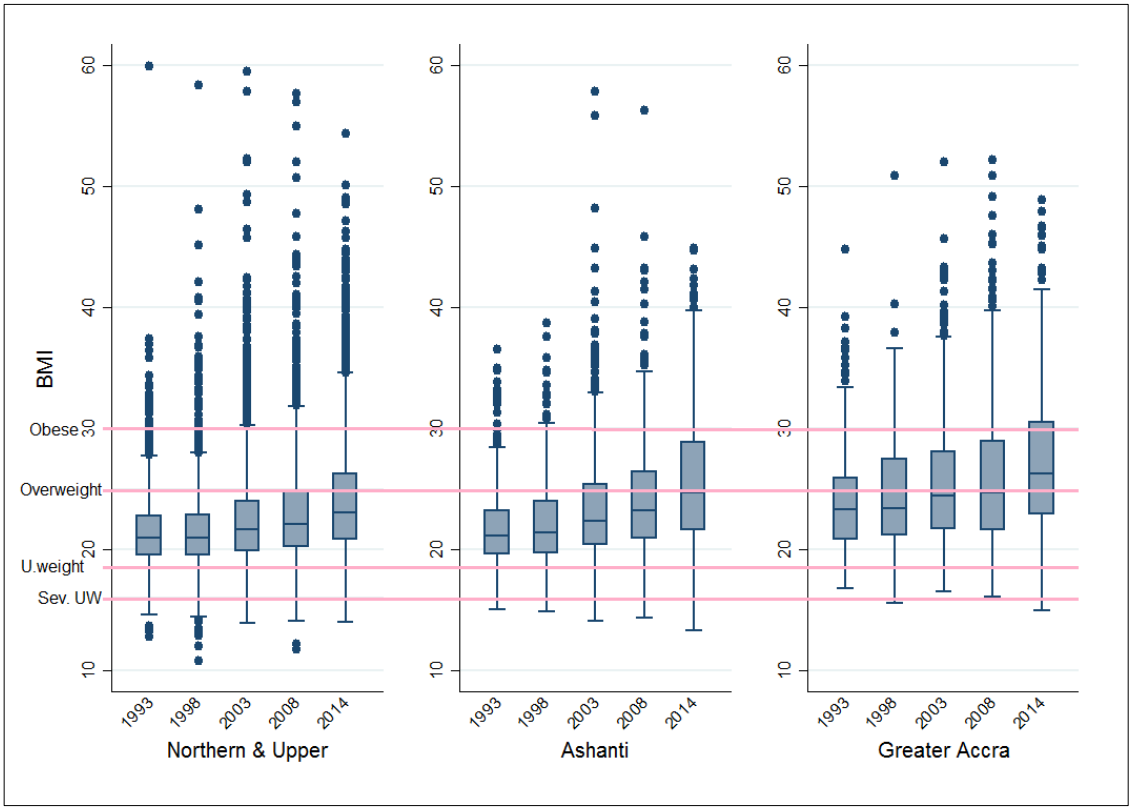
[72] This received some lively discussion through the late 1950s and early 1960s but little again until recently. See, Polly Hill, 'Some Puzzling Spending Habits in Ghana', *Economic Bulletin of Ghana*, 1.10 (1957), 3–11; Poleman; Rowena M. Lawson, 'Engel's Law and Its Application to Ghana', *Economic Bulletin of Ghana*, 6.4 (1962), 334–46; P.L.H. Davey, 'Some Puzzling Spending Habits in Ghana', *Economic Bulletin of Ghana*, 7.1 (1963), 17–28.

[73] Jane I. Guyer, *Marginal Gains: Monetary Transactions in Atlantic Africa* (Chicago: University of Chicago Press, 2004), p. 146.

[74] Alderman, pp. 21–22; Glewwe and Twum-Baah, p. 64.

[75] Daniel G. Maxwell and others, *Urban Livelihoods and Food and Nutrition Security in Greater Accra, Ghana:* (International Food Policy Research Institute (IFPRI), 2000), pp. 54–57.

Figure 7.8: Women's BMI distribution by location, 1993-2014
Source: GDHS, 1993-2014
n.b., Women with BMI over 60 (i.e. 1.5 times the WHO's start point for 'clinical obesity') were excluded. This accounted for 21 women of the 18,845 surveyed (0.1%). Bottom and top bands of box represents first and third quartiles, the band inside shows the median. Whiskers extend to 1.5 times the interquartile range.



In 1987, *South Magazine* wrote that 'Ghana has come a long way since 1983, the year of hunger, when people queued to buy kenkey and rationed petrol. Protruding collar bones, known as Rawlings chains, have been replaced by protruding stomachs, now known as Rawlings coats.'[76] However, Rawlings did not have coats for everyone. Throughout the 1990s, it was inequality which played out on flesh and bone, with the range and distribution of BMI's only continuing to grow into the 2000s, and with no signs of slowing down today [Figure 7.8]. Although this trend reflects what has been described as Ghana's 'double burden of disease' – the growing incidence of obesity and the impact of reliance on often innutritious street-foods or highly-processed imported foods – it is also a striking indication of the fundamental changes adjustment has wrought on Ghanaian nutrition.[77] Inflexible definitions of poverty as absolute dismissed and obscured the relationship between diet and wealth distribution while the globalised economy simultaneously encouraged the growth of dietary inequality. The spread and scale of

[76] Quoted in Boahen, p. 41.
[77] Samuel Agyei-Mensah and Ama de-Graft Aikins, 'Epidemiological Transition and the Double Burden of Disease in Accra, Ghana', *Journal of Urban Health*, 87.5 (2010), 879–97.

inequality under adjustment may even prove to represents a landmark in the history of African poverty. Jack Goody explained that poverty in precolonial Africa was exceptional because unproductive agriculture facilitated a relative absence of wealth. This, he suggests, precipitated undiversified class structures defined by dietary homogeneity and the universal impact of famine.[78] By the turn of the twenty-first century, these conclusions had never been less true.

c. *Understanding the resilience of malnutrition under adjustment: food and family maintenance*

In Europe and the US, Abram de Swaan has explained that elites promoted collective solutions to inequality over the long-term, slowly creating welfarist social contracts as a self-interested and cost-effective solution to the threats posed by the poor as well as the opportunities which could be derived from their labour.[79] However if the poor present neither a threat nor an opportunity, the fortunes of the rich are no longer interdependent with the fortunes of the poor. The spread of infectious disease, the physical imposition of the migrant poor and the threat of crime are all less relevant in today's Global South than in nineteenth-century Europe. Now the wealthy remove themselves from the social and actual diseases of poverty through inoculations and individualised health regimens, physical segregation and access to elite spaces such as private transport and distinct professional and commercial environments. At the same time, the value of the poor is diminished. With fewer people in government service and little impetus to invest in forward linkages, Ghana's agricultural and light industrial base required limited skill or education and can be staffed by a fairly inexhaustible army of workers.[80]

The ascendency of neoliberal hegemony in the years after the ERP further freed the Ghanaian elite from the social restraints of poverty. Unabashed faith in free-market solutions cemented elite removal from the pains of hunger and the pressures of food acquisition while simultaneously alleviating communal responsibility for the health effects of poverty. In succumbing to market forces, the social insurances which had previously ensured physical wellbeing and healthy social reproduction were

[78] Jack Goody, *Cooking*.
[79] Abram de Swaan, *In Care of the State: Health Care, Education and Welfare in Europe and the USA in the Modern Era* (Cambridge: Polity, 1988).
[80] Abram de Swaan, 'Elite Perceptions of the Poor: Reflections on a Comparative Research Project', in *Elite Perceptions of Poverty and Inequality*, ed. by Elisa Pereira Reis and Mick Moore (London: ZED Books, 2005), pp. 182–94.

progressively denied their worth. The pointed dismantling of statist forms of social security such as centralised healthcare, education and agricultural extension undermined the processes which had initially helped prevent malnutrition and assuage the weight of childrearing during Ghana's prolonged capitalist transformation. At the same time, the communalism and socialised understandings of medicine which had traditionally provided some insurance against malnutrition were progressively undone by a more insidious culture of neoliberalism. The literal and spiritual conflation of wealth and health promoted economic security instead through cash-earning, hard work and the largesse of the rich. Under adjustment, state and society, the dual pillars of nutrition security, progressively wore away. Rude health and nutritious food instead became commodities secured by individual success in the dynamic global market.

i. Strained domesticities and government withdrawal

Success in the global dynamic market was, however, not available to everyone. Opportunity was not equitably distributed across the country or within individual communities but instead collected around long-established centres of capital creation and reflected long-established patterns of discrimination. For instance, the absence of protection for or encouragement of local food produce undermined the value of agriculture in areas reliant on the sale of surplus subsistence produce. Without fertiliser subsidies, the profitability and productivity of peasant farming dropped considerably in comparison with globally-engaged export agriculture. Outcompeted by foreign imports, stymied by their distance from the market and by the environmental limitations on savannah agriculture, it was Northern peasants that were hardest hit by adjustment.[81] In this environment, Northern food farmers wistfully recalled the Acheampong regime as a halcyon 'time of Agric.'[82] The devaluation of subsistence agriculture drove monetisation, economic migration and the more general process of proletarianisation. It would, however, be wrong to assume that this was a passive or unpolitical process, a result of the 'invisible hand.' Even by the late 1980s, price incentives, the extension of easy credit

[81] See, for instance, Alexander Sarris and Hadi Shams, *Ghana under Structural Adjustment: The Impact on Agriculture and the Rural Poor* (New York: New York University Press for IFAD, 1991); V.K. Nyanteng and A. Wayo Seini, 'Agricultural Policy and the Impact on Growth and Productivity 1970-95', in *Economic Reforms in Ghana: The Miracle and the Mirage*, ed. by Ernest Aryeetey, Jane Harrigan, and Machiko Nissanke (Oxford: James Curry, 2000), pp. 267–83.

[82] Alice Wiemers, 'A "Time of Agric": Rethinking the "Failure" of Agricultural Programs in 1970s Ghana', *World Development*, 66 (2015), 104–17.

and the physical presence of agricultural extension officers complemented declining real incomes in order to induce the switch from food to cocoa-cropping.[83]

That the process of proletarianisation can lead to the devaluation of reproductive labour was seen with the Gold Coast's transition to colonial capitalism in the first half of the twentieth century [Chapters 3-5]. Since domestic reproduction is usually unpaid, monetarist economics denies it any value. However, it is with reproductive labour that children are born, fed and educated. By extension, the bearing, feeding, and education of children is also devalued. Ghana's shift to market fundamentalism in the years following the ERP reinvigorated this earlier trend by demanding deep cuts in public services. Since these responsibilities have historically been ascribed to women, the onset of adjustment shifted burdens of social reproduction onto 'a quiet army' of wives, co-wives, mothers, grandmothers and aunts. Though female traders and wealthy female family heads enjoyed the newly profitable market, for most women adjustment created new room for gendered exploitation and preceded an increase of sexual conflict.[84]

The position of rural women quickly worsened following the onset of adjustment. The promotion of export crops and increasing competition from imports devalued food cropping, and led to declining terms of trade in traditionally female-led industries.[85] In the late 1980s, in the Akan forest, Dei found men were often removing their labour from food farms in order to concentrate on cash-earning, the profits from which might be concentrated in non-food expenses such as house building, clothing, or marriage. By contrast, GLSS surveys suggest that female-headed households prioritised health, education and food.[86] Dei concludes that 'on the average, therefore, female spouses in male-headed households tend to be economically worse off than female heads of households.'[87] Nutrition surveys in the late 1980s suggest that women had borne the weight of recent changes. Women were said to be working harder during pregnancy and

[83] George J.S. Dei, 'A Ghanaian Town Revisited: Changes and Continuities in Local Adaptive Strategies', *African Affairs*, 91.362 (1992), 95–120 (pp. 105–6); Dei, 'Renewal', pp. 42–43.
[84] An excellent introduction to this point is Pamela Sparr, 'Feminist Critiques of Structural Adjustment', in *Mortgaging Women's Lives: Feminist Critiques of Structural Adjustment*, ed. by Pamela Sparr (London: Zed, 1994), pp. 13–39; or, in the same collection but with a focus on Ghana, Manu Takyiwaa, 'Ghana: Women in the Public and Informal Sectors under the Economic Recovery Programme', in *Mortgaging Women's Lives: Feminist Critiques of Structural Adjustment*, ed. by Pamela Sparr (London: Zed, 1994), pp. 61–77.
[85] Takyiwaa, p. 70.
[86] Juan Carlos Guzmán, Andrew R. Morrison and Mirja Sjöblom, 'The Impact of Remittances and Gender on Household Expenditure Patterns: Evidence from Ghana', in *The International Migration of Women*, ed. by Andrew R. Morrison, Maurice Schiff, and Mirja Sjöblom (Washington, D.C.: World Bank, 2008), pp. 125–52.
[87] Dei, 'Renewal', p. 38.

breastfeeding than before, with clinical signs of malnutrition 50 percent higher among pregnant than non-pregnant women of reproductive age. By 1987, 69 percent of pregnant women tested at antenatal clinics were anaemic by WHO standards. In Northern Ghana, one study classified 36 percent of women as severely underweight in the lean season, as compared with 19 percent the rest of the year. For men, the figures were 23 and 3 percent respectively.[88] Through not necessarily comparable, the 1961 nutrition survey found malnutrition in the savannah considerably lower and far less gendered. The average incidence of 'gross underweightedness' was 11 percent for women and 6 percent for men.[89] The large increase in wasting seen in the North and in rural areas in general between 1988 and 1993 might speak to a swift decline in female standing into the 1990s [Figures 7.1 and 7.2]. Indeed, in a study of malnutrition in Nandom, in Upper West Region, Baatar found that 'the problem goes back as far as November 1993, when as many as three hundred children were found to be malnourished … there was the need for resources to be mobilized to meet the apparently great increase in child malnutrition.'[90] This was generally seen as a decline in traditional communal support and it was 'common to hear people say – *yɛb bɛ kyaa bei* – meaning there is no more brother.' [91] The 'unprecedented seasonal outmigration of husbands and grownup sons' in search of cash concentrated the demands of farm and family on those left behind, leading to an 'alarming increase in the workload of the already overburdened Dagara mothers.'[92]

Since formal employment was also concentrated away from women, male outmigration in search of work increased de facto female headship to over half of all rural households. This conferred the burdens of rural survival squarely on women.[93] However, female headship granted greater agency over land, labour and capital use. Following the initial shock of adjustment, Chalfin has shown how a tradition of flexibility, alongside new forms of collective action, allowed women in Bawku's shea nut trade to actively mitigate their insecurity while also manipulating the market for their own advantage.[94] Perhaps prompted by the ERP's further marginalisation of women, or by the spread of female agency at home, the years after adjustment saw more women directly reject the status

[88] World Bank, *Ghana: Population*, pp. 53–54.
[89] Ghana Government, *The Nutrition of Adults in Northern Ghana: A Report of the National Nutrition Survey of the National Food and Nutrition Board* (Accra: Mimeo., 1962).
[90] Baataar, p. 14.
[91] Baataar, p. 35.
[92] Baataar, p. 60.
[93] Elizabeth Ardayfio-Schandorf, 'Household Headship and Women's Earning in Ghana', in *Family and Development in Ghana*, ed. by Elizabeth Ardayfio-Schandorf (Legon: Ghana Universities Press, 1994), pp. 30–47.
[94] Brenda Chalfin, 'Risky Business: Economic Uncertainty, Market Reforms and Female Livelihoods in Northeast Ghana', *Development and Change*, 31.5 (2000), 987–1008.

quo. Female dissatisfaction with rural life in Upper West Region, for instance, led to the growing feminisation of migration. With the more-regular remittances from female children propping up families at home, one Dagarra man explained that now, 'if you have only sons, you are dead.'[95] Throughout rural Ghana, consistent remittances did much to assuage the loss of rural labour and the declining value of trade in food. By 1999, only 14 percent of female-headed households were not receiving remittances.[96] In the rural forest, remitted income actively drove poverty reduction over the course of the 1990s, increasing from 11.2 to 24.7 percent of all income between 1991 and 1999. Although asset poverty did not improve in Northern Ghana, remittances increased from 4.8 percent of income to 12.2 percent, with this cash income probably providing a degree of food security.[97] By the end of the twentieth century, the practice of remitting home led to some to some household's actively compelling outmigration amongst their youth.[98] Perhaps because of these changes, Destombes 2000 restudy of Hunter's late 1960s survey found very little seasonal variation in women's weights in Upper East Region. Concluding, in stark contrast to even the 1980s, that women were the 'prime beneficiaries' of an 'escape from seasonal hunger.'[99]

In urban areas, on the other hand, retrenched civil servants and large numbers of the recently unemployed flooded the informal commercial sectors which had been traditionally dominated by women. Gendered dependency burdens, household time restraints and access to capital meant that men were often able to outcompete women in trade. In what has been described as a pattern of 'failed masculinities' and 'strained femininities,' declining male household contributions intensified the domestic effects of competition in traditionally female economies, leaving women and their children to suffer this 'double burden' of urban adjustment.[100] The 'structural violence' habitually endured by Ghanaian women has only increased in these years, concentrating amongst the most marginal women as well as their dependents.[101] For instance, although Ghana's HIV prevalence rate remains low for sub-Saharan Africa, economic migrants and women supplementing their income through the sale of sex are especially at risk and have been

[95] Abdul-Korah, '"Only Sons"', p. 396.
[96] Guzmán, Morrison and Sjöblom, p. 130.
[97] Aryeetey and McKay, 'Poverty Reduction', p. 74; Coulombe and McKay, p. 34.
[98] Kunfaa, p. 36.
[99] Destombes, 'Long-Term', p. 205.
[100] Overå.
[101] Emma-Louise Anderson, *Gender, HIV and Risk: Navigating Structural Violence*, Gender and Politics (Basingstoke: Palgrave Macmillan, 2015).

seen to 'drive HIV dynamics' in Accra and elsewhere.[102] HIV partly drives malnutrition figures too. In recent studies, as many as 20 percent of severely malnourished children at Princess Marie Louise Children's Hospital in Accra have been HIV positive.[103] Given the increasing marginalisation of urban women, it is perhaps unsurprising that the incidence of clinical acute malnutrition climbed in Accra and other urban spaces into the 2000s [Figures 7.1-7.4].

For the growing numbers of urban poor, the pervasive decline in food and economic security was accentuated by ideological attacks on urban survival mechanisms. In the mid-1990s, it was generally assumed that 'rural communities saw far more opportunities for action at the level of the community to increase livelihood security than their counterparts in the urban sector.'[104] Indeed, in the countryside, economic incentives to divest from the subsistence economy were heeded with caution, and cash-crops were produced 'in addition to' rather than 'instead of' food crops.[105] Urban agriculture also became an important survival tool after adjustment. Over the course of the 1990s, income from urban agriculture rose from zero to 5.3 percent of total income in Accra and from 2.4 to 9.8 percent in other urban areas.[106] Whether via agriculture, street hawking or slum housing, urban survival was increasingly dependent upon the creation of an urban commons and urban communality which was predicated upon the decommodification of food, shelter and economic opportunity.[107] However, neoliberal municipal governments have progressively encroached upon these freedoms by harassing street traders, levelling slums and claiming land tended by urban farmers for building works.[108] The privatisation of common property haunted the rural poor too. Tax breaks and liberalised land concessions encouraged large-scale, multinational ventures in high-growth industries like forestry and mining, marginalising artisanal production

[102] Anne-Marie Côté and others, 'Transactional Sex Is the Driving Force in the Dynamics of HIV in Accra, Ghana', *AIDS*, 18.6 (2004), 917–25.
[103] Edem M.A. Tette, Margaret Neizer, and others, 'Changing Patterns of Disease and Mortality at the Children's Hospital, Accra: Are Infections Rising?', *PLOS ONE*, 11.4 (2016), 1–12; Edem M.A. Tette, Eric K. Sifah, and others, 'Maternal Profiles and Social Determinants of Malnutrition and the MDGs: What Have We Learnt?', *BMC Public Health*, 16 (2016), 214.
[104] Andy Norton and others, *Poverty Assessment in Ghana - Using Qualitative and Participatory Research Methods*, PSP Discussion Pape (Washington, D.C.: The World Bank, 1995), pp. 1–95 (p. v).
[105] Brydon and Legge, p. 83.
[106] Coulombe and McKay, p. 34.
[107] Tom Gillespie, 'Accumulation by Urban Dispossession: Struggles over Urban Space in Accra, Ghana', *Transactions of the Institute of British Geographers*, 41.1 (2016), 66–77.
[108] Franklin Obeng-Odoom, 'The Informal Sector in Ghana under Siege', *Journal of Developing Societies*, 27.3–4 (2011), 355–92; Alex B. Asiedu and Samuel Agyei-Mensah, 'Traders on the Run: Activities of Street Vendors in the Accra Metropolitan Area, Ghana', *Norwegian Journal of Geography*, 62.3 (2008), 191–202.

and promoting proletarianisation.[109] At the same time, population growth and privatisation inhibited access to inelastic necessities sometimes required for appropriate feeding, often useful for supplementary food security and previously thought to be common property. For instance, an upward trend in the sale of firewood and an increase in prosecutions for stealing firewood led to a 'rural energy crisis' by the late 1980s and, by the early 2000s, an environment where it was 'as expensive in money or time to put the fuel under the pot as to put the food into the pot.'[110] These, again, were expanded burdens largely borne by women.

Defined by David Harvey as 'accumulation by dispossession' or primitive accumulation driven by the privatisation of previously common property, this trend has become a prominent feature of neoliberal governance.[111] Though often more forceful in the 'global city', many of the more malign impacts are environmental and affect the longer-term deterioration of nutrition and food security in rural areas. For instance, the government's leasing of forestry contracts to foreign firms and the promotion of cocoa farming have facilitated deforestation and biodiversity decline.[112] At the same time, foreign ownership of leases undercuts the social and spiritual responsibility which had ensured environmental sustainability.[113] Combined with piecemeal environmental legislation, pollution from mining has contributed to adverse health effects and soil degeneration.[114] With a considerable proportion of these growth industries concentrated in Asante, adjustment policies further devalued the 'broad forest rent' which had once provided a relative equity in terms of food, health and livelihood security. In the North, desertification and increasingly unpredictable rainfall have had a far greater direct effect on food, nutrition and water security, as well as upon the mechanisms which insure these concerns.[115] Although less directly related to in-country policy, growing hardships in the savannah reflect the global effects of accumulation by dispossession and the often

[109] See, for instance, Gavin Hilson and Clive Potter, 'Structural Adjustment and Subsistence Industry: Artisanal Gold Mining in Ghana', *Development and Change*, 36.1 (2005), 103–31 (pp. 121–24).
[110] Baataar, p. 66; Elizabeth Ardayfio-Schandorf, *Rural Energy Crisis in Ghana: Its Implications for Women's Work and Household Survival* (Geneva: International Labour Organization, 1986).
[111] David Harvey, 'The "New" Imperialism: Accumulation by Dispossession', *Socialist Register*, 40.40 (2009), 63–87.
[112] Samuel Nii Ardey Codjoe and Fred M. Dzanku, 'Long-Term Determinants of Deforestation in Ghana: The Role of Structural Adjustment Policies', *African Development Review*, 21.3 (2009), 558–88.
[113] George J.S. Dei, 'A Forest beyond the Trees: Tree Cutting in Rural Ghana', *Human Ecology*, 20.1 (1992), 57–88.
[114] Hilson and Potter, pp. 121–24.
[115] Frederick A. Armah and others, 'Food Security and Climate Change in Drought-Sensitive Savanna Zones of Ghana', *Mitigation and Adaptation Strategies for Global Change*, 16.3 (2010), 291–306; Joseph Awetori Yaro, 'Is Deagrarianisation Real? A Study of Livelihood Activities in Rural Northern Ghana', *The Journal of Modern African Studies*, 44.01 (2006), 125–156.

unrestrained commodification of natural resources. Sadly, the worst of these environmental effects have probably not yet been fully realised.

The government's more pointed divestment from infrastructural social insurances only accentuated strains in the domestic economy. Using GLSS data, Lavy et al found that average anthropometric measures often reflected access to health infrastructure. For instance, height-for-age was significantly higher in the presence of well-stocked health clinics while a reduction in distance from the rural mean (4.8 km) to the urban mean (0.6 km) would reduce the gap between rural and urban weight for height by almost 50 percent.[116] However, infrastructural improvements rarely grew up in response to greatest need but were instead built to support centres of capital accumulation. This ultimately aped the colonial pattern, which saw the urban South accruing most of the benefit. In 1989, urban areas with one third of the population received 42 percent of the Public Investment Programme (PIP) spending, by 1992 the figure had risen to 48.7 percent. Of the 62 PIP education projects in the North, Tamale absorbed 62 percent. By 1997, there was an excess of seven thousand teachers in urban areas, with twenty-one thousand positions left to be filled around the country. Health spending followed a similar pattern. In 1985, the government implemented health user fees, initiating a massive and immediate drop in hospital usage and a cultural shift away from scientific medicine, especially amongst the rural poor.[117] By 1991, Accra enjoyed nearly 600 percent more per capita health investment than any other region, with 60 percent of equipment and vehicles too.[118] Access to the remaining public services and ability to employ best nutrition practice was also dictated by more fundamental access to transport, sanitation and electrification infrastructure. The market forces behind extractive economics encouraged road building and infrastructural advantage in centres of capital accumulation, compounding public spending and concentrating health advantage in these areas.[119] A good example of this is AngloGold Ashanti's pioneering anti-malarial spraying operation recently undertaken around Obuasi, the home of Ghana's largest gold mine and its greatest single source of foreign exchange. At the end of the project, in 2013, AngloGold concluded that 'the mine has reported an 84 percent reduction in new cases over the past three years and a 94 percent reduction in the Malaria Lost Time Frequency

[116] Lavy and others, p. 21.
[117] C.J. Waddington and K.A. Enyimayew, 'A Price to Pay: The Impact of User Charges in Ashanti-Akim District, Ghana', *The International Journal of Health Planning and Management*, 4.1 (1989), 17–47; Lavy and others, p. 10.
[118] Konadu-Agyemang, p. 479; Hutchful, *Adjustment Experience*, pp. 119, 130.
[119] C.A. Anyinam, 'Spatial Implications of Structural Adjustment Programmes in Ghana', *Tijdschrift Voor Economische En Sociale Geografie*, 85.5 (1994), 446–60.

Rate (MLTIFR).'[120] In neoliberal Ghana, even worthwhile and ostensibly civic-minded public health improvements came not as a reasoned reaction to public need but in response to the specific demands of capital formation.

ii. Filling gaps in the market: church, charity and civil society as social insurance

With the state in retreat and family reproduction in crisis, good health and freedom from physical want became increasingly reliant upon new forms of security. These emergent forms of charity did not necessarily grow up in defence of neoliberal dominance but they were all formed in response to the economic realities of the post-ERP period and so reflect the particular social anxieties which developed in the years after adjustment. Two prominent forms of social security invigorated by adjustment are particularly illuminating and speak to important shifts in the relationship between society and societal support. Both the (re)emergence of church-based support and the growing importance of NGOs and foreign aid, especially with regard to the promotion of civil society, suggest the pervasion of an insidious cultural shift. In the Weberian tradition of 'Protestant work ethics' and the 'spirit of capitalism', this 'spirit of neoliberalism' appoints the wealthy as arbiters of social survival and grants the individual accumulation of capital a degree of moral authority.

The primary foreign financiers of Ghanaian development projects largely followed the direction set by the World Bank, with the priorities of DFID and USAID's client NGOs generally pursuing a common mandate to bring Ghana more fully into the global fold.[121] Though over-generalising the NGO sector's wide range of often deeply antagonistic standpoints, NGO distribution of aid and expertise was central to the construction of Ghana's neoliberal economy.[122] However, as the adjustment programme moved out of the initial stabilisation stages, which were overseen by a small group of technocrats and ministerial advisors, the number of actors required to implement and consolidate economic liberalisation grew significantly. This next stage required consensus building and a notional community ownership of the development trajectory. Billed as ostensibly grass-roots support for liberalisation, the nascent civil society which came to participate in the country's economic reforms was largely built from the elite beneficiaries of

[120] AngloGold Ashanti, 'Case Study: Creating a Sustainable Solution for Malaria in Continental Africa Region', 2013 <http://www.aga-reports.com/13/os/case-study/car-malaria> [accessed 3 August 2016].
[121] Paul Cammack, 'Making the Poor Work for Globalisation?', *New Political Economy*, 6.3 (2001), 397–408.
[122] See, for instance, Ian Gary, 'Confrontation, Co-operation or Co-optation: NGOs and the Ghanaian State during Structural Adjustment', *Review of African Political Economy*, 23.68 (1996), 149–68; Tina Wallace, 'NGO Dilemmas: Trojan Horses for Global Neoliberalism?', *Socialist Register*, 40 (2009), 202–19.

adjustment.[123] Pointed at to prove the succession of democracy, populist rule and moral accountability, civil society can be touted as an effective recourse against the worst excesses of political accumulation and kleptocratic postcolonial governments.[124] Indeed, in 1995, the largest protest since the 1948 riots saw oppositional political parties, a lively independent media and organised professional associations pose successful opposition to the PNDC's attempt to implement a value added tax.[125] However, by opposing state involvement in the economy, an NGO-led civil society instead exalts the freedom of the market as the cornerstone of political liberty. As was the case with PAMSCAD in the 1980s, NGOs accumulate foreign capital to further these ends, building patronage by extending social security for the poor and employment for the elite.[126] We are now not far from Bayart's original conceptualisation of civil society as part of the 'reciprocal assimilation of elites.'[127] However, micro-credit now replaces the paternalism of previous years in order to build a culture of market-led solutions to poverty and hunger. Into the 2000s, Wiemers found in the Northern savannah that NGO's – familiar enough to be termed 'n-joos' – underwrote the sort of affordable fertiliser and agricultural extension which had defined Acheampong's Operation Feed Yourself in the 1970s.[128] Nutrition security was also more directly attended to by the *noblesse oblige* of donor governments and their client NGOs. In the late 1980s, attendance at health centres without food were half that of those with CRS take-home rations.[129] By providing security outside of the state but within the market, the internationalist promotion of a poorly-defined civil society provides, as Jean and John Comaroff have explained, a panacea for the ills of neoliberalism. It suggests a meaningful social existence in a time of declining social support, dismissing the threat of Adam Smith's 'Society of Strangers.'[130]

These same processes are perhaps more evident in Ghana's rapidly-growing Pentecostal or Charismatic churches. Here, both spiritual and terrestrial social insurances are underwritten by the economic success and spiritual authority of wealthy church leaders.[131] As Comaroff and Comaroff again explain, the Pentecostal movement flourishes

---

[123] Julie Hearn, 'The "Uses and Abuses" of Civil Society in Africa', *Review of African Political Economy*, 28.87 (2001), 43–53 (pp. 45–47).
[124] See, Bayart.
[125] Philip D. Osei, 'Political Liberalisation and the Implementation of Value Added Tax in Ghana', *The Journal of Modern African Studies*, 38.02 (2000), 255–278.
[126] Jean-Pascal Daloz, '"Big Men" in Sub-Saharan Africa: How Elites Accumulate Positions and Resources', *Comparative Sociology*, 2.1 (2003), 271–85 (pp. 279–80).
[127] Bayart, pp. 155–63.
[128] Wiemers, p. 108.
[129] World Bank, *Ghana: Population*, pp. 54–55.
[130] Comaroff and Comaroff, 'Millennial Capitalism', pp. 330–34.
[131] Paul Gifford, 'Ghana's Charismatic Churches', *Journal of Religion in Africa*, 24.3 (1994), 241–65.

where 'neoliberal forces have eroded the capacity of liberal democratic states to provide education, health and welfare.'[132] In these situations, popular churches can quickly establish, fund and run schools, employment services and their own forms of healthcare.[133] In this respect, Pentecostal churches provide a new community, characterised by mutual trust and aid. However, in a time of increasing healthcare costs, Addai has questioned whether Pentecostal churches have proactively oriented health seeking behaviours towards faith-based medicine.[134] Religious support is clearly not always tangible. Instead, some churches extol the ideas that, with personal endeavour in a free market and under guidance of the 'prosperity gospel', born-again Christians may be blessed with the same prosperity that has benefitted the church's primary evangelists. In the Volta Region, Meyer's work amongst the Ewe suggests that Pentecostal churches provide spiritual protection for commercialism while justifying individualism and allowing community decay.[135]

Where NGOs promote civil society to offer some ethereal protection against the mores of state accumulation, Pentecostal churches provide spiritual justification for faith in the free-market alternative. In valorising their success in this environment, church leaders and the heads of secular civil society are exalted as spiritually sanctified or politically significant. Their station validates the same 'spirit of neoliberalism' which brought them to that position. Though we should not overstate the value of NGOs or Pentecostal churches for the everyday survival of Ghana's majority, proselytising from either the pulpit or the credit union works to reproduce the ideas upon which they are based, compounding the inequality and communal strain already cheapening domestic reproduction.

iii. Expensive children and cheap childhoods

Often the social and medical pressures which accompanied Ghana's transition to market fundamentalism were felt most acutely by children. The strained domestic economy and the rising cost of living made childrearing more expensive, cheapening childhood in view of a growing need for children to become more directly productive assets. The growing cost of dependents was both sharply realised and frankly addressed during these years.

---

[132] Jean Comaroff and John L. Comaroff, 'Second Comings: Neo-Protestant Ethics and Millennial Capitalism in Africa, and Elsewhere', in *2000 Years and beyond: Faith, Identity, and the 'Common Era'*, ed. by Paul Gifford (London: Routledge, 2003), pp. 291–343 (p. 121).

[133] Joel Robbins, 'The Globalization of Pentecostal and Charismatic Christianity', *Annual Review of Anthropology*, 33.1 (2004), 117–43 (p. 131).

[134] Isaac Addai, 'Determinants of Use of Maternal-Child Health Services in Rural Ghana', *Journal of Biosocial Science*, 32.01 (2000), 1–15 (p. 14).

[135] Meyer, 'Commodities and the Power of Prayer', pp. 762–66.

By the late 1980s, UNICEF reported on the alarming increase in child pawning.[136] In the mid-1990s, Oppong explained that this formed part of a growing reaction to unwanted fertility which also included 'escalating evidence of … abortion, child neglect, abandonment and abuse.'[137] Beginning in the 1990s, a rash of articles began to call attention to the same 'spirit children' which had impaired family survival around Kassena-Nankana District in the Upper East Region during the colonial period [Chapter 4].[138] One 2001 study suggests that perhaps 15 percent of mortality in children under three months was due to infanticide relating to spirit children.[139] Older children were quickly incorporated into the labour force, with the familial production of cocoa or the rather misleadingly-named 'artisanal' production of gold increasingly reliant on child labour.[140] The educational reforms introduced in 1987 did little to prevent the ready commodification of children, their primary objectives being 'increasing access to first cycle education and increasing its practical and vocational content so that its products are more easily absorbed into productive activities.'[141]

Although infant healthcare was ostensibly free, the rising cost of transport, alongside constraints on maternal time and energy, proved a significant impediment to its use. In the years following the ERP, but before the advent of CMAM or Plumpy'Nut, the languorous 43-day nutrition rehabilitation programme was financially impossible for working mothers or for families living far away from nutrition clinics.[142] Attendance was sporadic and drop-out rates were extremely high. As late as the early 2000s, only 22 percent of children were officially discharged from one programme in Accra.[143] Even with a good understanding of nutrition, these same mechanisms impede the employment of this knowledge. In order to stem the use of *koko* and thin cereal gruels for weaning, in 1987 the government began to encourage the uptake of Weanimix, a cereal-legume mixture. However, one mother at an Accra rehabilitation centre explained

[136] UNICEF, ii, p. 106.
[137] Christine Oppong, 'Some Roles of Women: What Do We Know?', in *Family and Development in Ghana*, ed. by Elizabeth Ardayfio-Schandorf (Legon: Ghana Universities Press, 1994), pp. 57–94 (p. 63).
[138] Aaron R. Denham and others, 'Chasing Spirits: Clarifying the Spirit Child Phenomenon and Infanticide in Northern Ghana', *Social Science & Medicine*, 71.3 (2010), 608–15.
[139] P. Allotey and D. Reidpath, 'Establishing the Causes of Childhood Mortality in Ghana: The "Spirit Child"', *Social Science & Medicine*, 52.7 (2001), 1007–12.
[140] Hilson and Potter; Gavin Hilson, 'Child Labour in African Artisanal Mining Communities: Experiences from Northern Ghana', *Development and Change*, 41.3 (2010), 445–73.
[141] Ghana Government, *Enhancing the Human Impact of the Adjustment Programme: Report Prepared by the Government of Ghana for the Sixth Meeting of the Consultative Group for Ghana, Paris, 14-15 May 1991* (Accra: Government Printer, 1991), p. 28.
[142] World Bank, *Ghana: Population*, pp. 54–55.
[143] Esi K Colecraft and others, 'A Longitudinal Assessment of the Diet and Growth of Malnourished Children Participating in Nutrition Rehabilitation Centres in Accra, Ghana', *Public Health Nutrition*, 7.4 (2004), 487–94 (p. 490).

that 'if someone doesn't have money she can't cook like they did at the NRC [Nutrition Rehabilitation Centre].'[144] Instead, many mothers continued to buy *koko* and other innutritious street foods as time- and cost-effective solutions to the pressures of domestic reproduction in adjustment Accra.

The informed nutritional compromises undertaken by Accra mothers reflect more fundamental shifts in Ghana's food culture and the broader growth of dietary inequality. Liberalisation pressured women into working longer hours and unaffordable housing pushed poor people out of city centres, where they arrived home too late or too tired to cook *fufu* or the other staples which had, even recently, been central to ethnic identity. In Maxwell *et al*'s 2000 study of urban food security, households in the poorest expenditure quintile spent nearly 40 percent of their entire food budget on snacks and meals away from home, as compared to only 25 percent in the highest group.[145] By the 1990s, and in a significant break from the past, families began to relegate *fufu* to Sundays alone.[146] As Clark explains, 'shrinking access of ordinary households to high-status traditional foods … suggests that their routine consumption may eventually signal exclusive elite status in the same way that wearing hand-woven *kente* cloth to ordinary events already does.'[147]

d. Diet and the new processes of food acquisition in global Ghana

As was the case with past trends, globalisation and neoliberal governance influence nutrition through the dual mechanisms of food and feeding. Changes in Ghana's food economy since the onset of the ERP have influenced the availability of particular foods at the same time as shifts in domestic life have changed which foods caregivers provide and how and when they provide them. Although too large a concern to fully address here, the higher-order problem, that of the food economy, demands that we question which foods proliferated and sustained Ghana's new economic direction. This must be considered in the context of what Barry Popkin has been most influential in describing as an

[144] Colecraft and others, p. 491.
[145] Maxwell and others, p. 61.
[146] Gracia Clark, 'From Fasting to Fast Food in Kumasi, Ghana', in *Food Consumption in Global Perspective: Essays in the Anthropology of Food in Honour of Jack Goody*, ed. by Jakob Klein and Anne Murcott (Basingstoke: Palgrave Macmillan, 2014), pp. 45–64 (p. 57).
[147] Clark, 'Fasting', p. 47.

international 'nutrition transition' from fruit and vegetable heavy, cereal-based diets to high-fat, high-sugar, high-animal protein 'Western' diets.[148]

As we have just seen, a common theme in the post-adjustment food culture is that dietary compromise can garner economic efficiency at the household level. This is true at the national level too, leaving adjustment at least partially built on dietary compromise, especially for the poor. That the process of proletarianisation is facilitated by the displacement of peasant agriculture in favour of capitalist agriculture is something which has long been recognised in Marxist circles, as a basal feature of primitive accumulation.[149] In recent years, this has been explained as a process in which international corporate food regimes 'dispossess farmers as a condition for the consolidation of corporate agriculture', that is to say as part of Harvey's 'accumulation by dispossession.'[150] The correlate of this is that the transition to wage labour is secured by cheap food. Although this has always been problematic, in the years following adjustment, this logic has been extended across a truly global market. The promotion of export agriculture, the abolition of import tariffs, the absence of subsidies or other protection for domestic produce, and a quickly growing national population precipitated an increase in food imports. The response forwarded for domestic agriculture was the greater production of innutritious but easily produced local staples, such as cassava, in order to rebuff overseas competition.[151]

The problem with economically efficient diets is that they generally promote long-lasting and energy-dense foodstuffs at the expense of those with a more holistic nutritional value. Fresh fruit, vegetable and animal produce are more difficult to pack and transport and more likely to spoil than processed foods. More importantly, it is often just not that cheap. Elsewhere, the proliferation of heavily constructed foods has been forwarded as a feature of a neoliberal food economy, where diminished governmental control over the use of agricultural surpluses has led to an increase in the consumption of energy-dense 'pseudo-foods' and a commensurate increase in obesity and diabetes, the incidence of which is often concentrated amongst the poor.[152] The spread of similar foods in Ghana

[148] See for instance Popkin.
[149] Henry Bernstein, *Class Dynamics of Agrarian Change*, Agrarian Change and Peasant Studies Series (Halifax, N.S: Fernwood, 2010), pp. 25–37.
[150] Philip McMichael, 'Reframing Development: Global Peasant Movements and the New Agrarian Question', *Canadian Journal of Development Studies*, 27.4 (2006), 471–83 (p. 476); Harvey, 'The "New" Imperialism'.
[151] See, for instance Harold Alderman and Paul A. Higgins, *Food and Nutritional Adequacy in Ghana* (Ithaca, N.Y.: Cornell Food and Nutrition Policy Program, 1992), pp. 1–61.
[152] Gerardo Otero and others, 'The Neoliberal Diet and Inequality in the United States', *Social Science & Medicine*, 142 (2015), 47–55.

has prompted concerns regarding the rise of chronic food-related illnesses from cardiovascular disease to certain forms of cancer.[153] Of course, this problem is by no means new, but it is exacerbated by increased globalisation and the neoliberal turn. The breastmilk substitutes which initially hampered infant nutrition in the mid-twentieth century, interacting with the domestic pressures of immersion into colonial capitalism, are now even more widely available and still present problems. Today, though, these early imports have been joined by products which help to further cheapen domestic reproduction. Rice, vegetable oil and instant noodles provide quick, affordable and popular meals but bring their own health hazards. Nestlé's popular Maggi noodles, for instance, were found to contain so much lead, and later ash, that their sale was recently banned in India.[154] If the neoliberal period can be considered a 'race to the bottom', then its food economy certainly reflects this. In the truly global food economy, it is cheap and innutritious food which props up increasingly strained domestic economies, plays out along income inequities and concentrates the malign effects of poor nutrition amongst the poorest people. This is something which has had scant research in Ghana, or in the developing world. However, in the context of the 'epidemiological transition' and the 'nutrition transition', research on these processes is more pressing than ever.

Given that misinformation and opacity still characterise the science of nutrition, it is difficult to grasp the health effects of dietary change. Neither academics not consumers have the tools to fully identify the risks. As a conscious concern, hunger is what makes food such an inelastic commodity. However, since good nutrition is essentially a subconscious, physiological want, nutritious food can be extremely income elastic. This is especially problematic in an era of globalised and processed food, where cheap fats, sugars and salt are used to play on innate, hedonic preferences for these food elements.[155] In places like Accra, the entrepôt of a successful globalised economy – something Ghana has at least emulated in the years following adjustment – nutrition insecurity did not necessarily manifest in malnutrition as it had played out in previous decades. In view of Ghana's quickly shifting food culture and food economy, the growth of anthropometric inequality [Figure 7.8] casts doubt on the degree to which anthropometric indicators can actually reflect nutritional health in a more holistic sense. Can we assume that increasing average weight-for-height is beneficial or even benign without a microscopic knowledge

[153] Agyei-Mensah and Aikins.
[154] Preetika Rana, 'Nestlé's Noodles Face More Scrutiny in India', *Wall Street Journal*, 31 March 2016 <http://www.wsj.com/articles/nestles-noodles-face-more-scrutiny-in-india-1459428231> [accessed 9 August 2016].
[155] A. Drewnowski, 'Taste Preferences and Food Intake', *Annual Review of Nutrition*, 17.1 (1997), 237–53.

of the social and spatial particularities of food availability and dietary regimen? There is, for instance, certainly evidence to suggest that, even if they out-grow their peers, non-breastfed babies are in danger of obesity, diabetes and associated risks later in life.[156] Current understandings of nutritional science clearly cannot account for these changes without qualitative studies which give greater credence to economic, cultural and historical contexts.

What is clear, however, is that globalised food and strained domesticities have radically altered Ghanaian nutrition in a remarkably short space of time. Though concentrating in Accra and other urban areas, diets are changing everywhere in reaction to global integration. It is surely reasonable to assume that the free-market doctrines which bore these changes have had some effect on diet and feeding practice. One of the defining characteristics of the neoliberal political economy is the promotion of the individual. This was felt in Ghana as early as the late 1980s, when the communal support structures, labour partnerships and cottage industries which had sustained rural forest communities during the crisis years started to collapse.[157] What Dei instead found was 'households reintegrating fully into the market economy' and a new and 'marked dependence on available imported goods.'[158] Perhaps it is this individualisation which explains why, in their study 1999 study of nutrition in Accra and Abdijan, Morris et al found that malnutrition does not cluster because of 'any lack of variation between clusters, but from a surprisingly large degree of variation within clusters.'[159] This, as other studies have also shown, suggests that the unfavourable environmental conditions which might reasonably promote a high local incidence of malnutrition can be offset by the practices and resources employed by the increasingly nucleated family unit.[160] At least by 2008, household nucleation was a reliable predictor of good infant growth.[161] Largely emanating from the 1990s, we should not divorce these studies from their historical framing. Indeed, increasingly individualised nutrition is also suggested by the growing

[156] Ricardo Uauy, Cecilia Albala and Juliana Kain, 'Obesity Trends in Latin America: Transiting from Under- to Overweight', *The Journal of Nutrition*, 131.3 (2001), 893S–899S; Christopher G. Owen and others, 'Effect of Infant Feeding on the Risk of Obesity across the Life Course: A Quantitative Review of Published Evidence', *Pediatrics*, 115.5 (2005), 1367–1377; Christopher G. Owen and others, 'Does Breastfeeding Influence Risk of Type 2 Diabetes in Later Life? A Quantitative Analysis of Published Evidence', *The American Journal of Clinical Nutrition*, 84.5 (2006), 1043–54.
[157] Posnansky.
[158] Dei, 'Renewal', pp. 32–33.
[159] Morris and others.
[160] For the effects of the household see, Ruel, Levin, and others; For increasing nucleation, Samuel Kobina Annim, Kofi Awusabo-Asare and Joshua Amo-Adjei, 'Household Nucleation, Dependency and Child Health Outcomes in Ghana', *Journal of Biosocial Science*, 47.05 (2015), 565–592.
[161] Annim, Awusabo-Asare and Amo-Adjei.

polarisation of heights and especially weights [Figure 7.8]. Though most obvious in Accra, but increasingly relevant to nutritional health elsewhere, we cannot discount the possibility that these changes 'are concrete, historically specific outworkings of millennial capitalism and the culture of neoliberalism.'[162]

[162] Comaroff and Comaroff, 'Millennial Capitalism', p. 334.

8. CONCLUSION

Famines in Africa are often thought of as events. They are named and well-remembered by those that lived through them. They are addressed in history books. However famine is really part of a process, one with causes and effects which reach well beyond the areas immediately impacted and which remain relevant to disparate histories long after they have subsided. A narrow focus on famine as a flashpoint overlooks the evolution of hunger, food security and nutrition in interdependent but distinct environments. With regard to the relative incidence and impact of precolonial and colonial famine, John Iliffe emphasises that colonial-era cash-cropping assuaged the threat of hunger. Michael Watts, by contrast, emphasises the adverse effects of the economic peripherality which accompanied the cash-crop system.[1] The Ghana example shows that, while there is value to both of these arguments, both are limited by their geographic reach. Iliffe overlooks the effects of cash-cropping on labour exporting areas and the areas from which cash-cropping zones drew their food. Watts downplays the importance of economic expansion elsewhere, the value of remittances, urban economies and the versatility of the labour market.

This thesis presents a first attempt to fill the space overlooked by prominent histories of hunger, to present a history of food and health which recognises the unique geographical contexts that followed in the wake of European colonisation. By broadening the history of food and health to include places rarely troubled by hunger and periods of relative plenty, this thesis provides a more holistic history of nutritional health which recognises the relevance of hunger but also begins to move beyond it. Although the Ghanaian case makes only initial steps towards an integrated spatial history of nutrition, it does highlight some of the ways that physical want shifts across discrete environments. Indeed, as the last chapter showed, there remains a need to recognise social and spatial diversity in the analysis of nutrition and food-related disease. Even with access to vast cross-sectional nutrition surveys, hunger and nutritional illness will persist without a more detailed understanding of the mechanics of consumption at distinct times and in distinct spaces. To reiterate Curtin's 1985 conclusion, this is largely because nutrition should be seen as an important 'mediating element in man's [sic] relationship with his environment.'[2]

[1] Watts, *Silent Violence*; Iliffe, *Zimbabwe*.
[2] Curtin, 'Nutrition in African History'.

The comparative study of Ghana's North and South has granted room to question another of Iliffe's assertions, that inappropriate or inadequate nutrition displaced the threat of famine sometime during the twentieth century.[3] Although this general shift is certainly evident in Ghana, since proneness to hunger was never universal in the nineteenth century we should question the foundations of such a generalisation. In the forest, famine was quite absent while, in the North, endemic food insecurity may have often led to acute periods of hunger but demographic insurances did something to assuage its impact. We see this in Ghanaian demography and anthropology, both of which clearly reflect the weight of local nutrition environments. Although pronatalist beliefs were adhered to everywhere in the precolonial nineteenth century, relative levels of food security influenced the intensity of childbearing. Lengthy periods of breastfeeding and post-partum sexual abstinence were a socially reinforced response to the isolated periods of hunger which haunted the Northern savannah. In Asante, a uniquely secure food economy supported short birth-spacing and a cult of female fertility. Reproductive and dietary norms meant that protein deficiency was more common than in those areas further north but there is no evidence to suggest that severe deficiency was a significant burden. Under colonial governance, the facilitation of migration and the growth of capitalist production provided new space to alleviate economic and environmental pressures especially in the North, while also affording the food insecure greater agency over their future security. However, cocoa and cash-earning increasingly concentrated responsibility for food provisioning and nutrition security on women who, in turn, began to push against the co-option of female labour. The modern history of gender conflict and the ongoing feminisation of migration in part reflects this.

Food insecurity, however, only accounts for part of the aetiology of malnutrition and can also only account for part of its history. Since diets are swayed both by innate physiological responses and culturally subjective understandings of the value of food, economic growth does not necessarily prevent malnutrition. Despite clear improvements in terms of average nutritional status and poverty reduction, malnutrition has remained an obstinate health problem, even during periods of macroeconomic expansion, such as the initial cash-crop boom or the sharp post-adjustment recovery. Although greater food security and better health care readily translated into improving anthropometry under colonial and early postcolonial governments, the demands of capitalist production promoted sacrifices in social reproduction and a new propensity for nutritional illness, especially in times of particular hardship. Where immediate nutritional status improved,

[3] Iliffe, *African Poor*, p. 160.

longer-term nutrition security was less affected and likely even declined at certain times, in certain areas and for certain groups. At the same time, wealth creation through extractive means heightened relative poverty, especially in areas and amongst people excluded from wealth. By relativizing poverty along a broader scale, particularly unequal societies are prone to compromises in terms of health and diet as diversifying consumption places new demands on scant resources. Contributing to patterns of rural-urban migration as well as high-risk health behaviours and reproductive strategies, spreading spatial and social of inequality have, at least in part, promoted a movement towards nutrition insecurity.

The seeds of the postcolonial food crisis can be traced through the structural impositions of colonial development, culminating most dramatically in 1983. Although urbanisation, emigration and economic diversification alleviated the threat of epidemic hunger, these same processes propped up and fed the growth of an insecure labouring class. The cocoa boom and cash-crop transition undermined national food production and the social insurances which had prevented malnutrition while also promoting market dependency amongst the poor. Coinciding with a period of climactic instability, political decline preceded the collapse of the market and the market-based food economy during the 1970s and early 1980s. State-dependent modes of food security were stripped away by the *kalabule* culture of corrupt accumulation, while precolonial social insurances had long been fatally undermined. As food shortages pressed upon the most marginal members of the divergent postcolonial economy, the structural poor of the Northern savannah were joined in their hunger by a new, market-dependent proletariat elsewhere. Pervasive structural declines in nutrition security meant that the nutritional impact of market contraction was far greater than it would have been prior to colonisation.

Detailed in Chapters One and Six, the medical and scientific environment of the recent past did little to check these changes. Since good nutrition and malnutrition were constructed through Western consensus, their conceptualisation was generally responsive to a Westernised political economy. The promotion of protein deficiency as Africa's most pressing nutritional concern stemmed from a culture of colonial othering which problematized an 'exceptionalist' African food environment. Though in some ways a rather superficial medical preoccupation, the early promotion of high-protein supplements underwrote the risky social reproduction strategies that were demanded by colonial capitalism and were responsible for the epidemic rise of marasmus and marasmic-kwashiorkor throughout the twentieth century. Breastfeeding durations

declined universally, often replaced with inadequate supplementary foods or unhygienic feeding methods. While postcolonial nutrition science was more attuned to the needs of African mothers, the general approach to nutrition care continued to pander to Western political concerns regarding African 'overpopulation' and the liberalisation of African economies.

Although Ghana's economic thrust has remained fairly consistent in the years since its emergency adjustment programme began in 1983, the transition to democracy in 1992, the end of Rawlings' premiership in 2000 and the various policies of subsequent governments have all altered the political context of nutrition in Ghana.[4] However, as the economy continues to grow, and the widespread want of the 1970s and '80s falls from popular consciousness, much of Ghana's young population has never experienced hunger. With new sources of national income in the form of off-shore oil reserves, it might be assumed that even fewer will in the future. Despite this, malnutrition remains one of the country's most pressing health concerns and there is good reason to believe that the hungry rent-seeking of the Acheampong years has endured, simply adapting to new sources of income in a more global world. Inequitable economic progress has hidden significant deviations in terms of consumption and has obscured the persistent failures of subsistence which are apparent in recent anthropometric and expenditure data. Increasing cash wealth and rising life expectancies have also brought new concerns for the country's nutritionists. Diseases of overconsumption and physical degeneration interact with an increasingly global food economy that must feed a range of incomes growing gradually more extreme. Dietary inequality over the past twenty years amounts to a nutritional sea change and must be considered one of the most pressing health concerns in Ghana and across the continent.

Nutrition plays an important if often poorly understood role in the social aetiology of most chronic and non-communicable diseases and is central to the 'epidemiological transition' apparently underway in Ghana. From infant formula to white rice and from refined sugar to instant noodles, Ghana's changing food economy has brought benefits as well as pitfalls for the health of consumers. Recent changes in modes of production and family structure have further influenced aspects of diet as well as patterns of childrearing.[5] An expanding urban milieu, often made up of younger single people, can make traditional diets unattractive and uneconomical. However, attractive and

[4] Hutchful questions whether, after this first election, adjustment was 'aborted' in Ghana. See, Hutchful, *Adjustment Experience*, pp. 214–48.
[5] Clark, 'Fasting'.

economical foods from the growing restaurant sector are often the most readily related with 'new' diseases such as diabetes, heart disease and obesity. In the same vein as the epidemic of bottle-fed marasmus, now reportedly in decline, new nutritional concerns interact with poverty, in terms of time and money, but also reflect increases in expendable income.

It is not too much of a stretch to see something of earlier nutrition crises in these new health challenges. Following the implementation of the ERP, little effort was invested in the rehabilitation of national food production. Instead, the ever-more marketised food economy has been expanded, internationalised and made more efficient at the expense of Ghanaian food sovereignty. As a result, some of the structural causes of malnutrition have endured. This does not simply relate to the cheapness of food but to time, space and labour too. Food markets have developed to meet changes in domestic reproduction and to grant dietary choice. But this choice is made in the context of constrained domesticity and in the shadow of high-fat, high-sugar and high-salt foods which play on innate taste preferences.

Urban centres and densely populated cocoa districts stand out as historical loci of market dependency and warrant further investigation in light of recent change. So does the far north-east, where the food market underlines local food insecurity. Although the work of Destombes and Webber in the late 1990s updated conclusions regarding this area, as the national centre of disease, population pressure and hunger, this region deserves frequent reconsideration.[6] A cross-border comparison of experiences in north-eastern Ghana and the riverine areas of southern Burkina Faso would add further perspective to the deep history of this important area and the relative effects of macroeconomic change on peripheral economies. The history of food marketing and of the changing perceptions of the value of different foods is also long overdue, especially in this recent context, where unfamiliar diseases have started to assume a greater social significance. Popular and medical responses to these newly visible and poorly understood diseases are just as confused and reactionary in Africa as they are in Europe, particularly when informed (or misinformed) by the often opaque science of nutrition.

As nutritional disease in Ghana quickly changes, its history demands even more detailed investigation. Ill-health today is still deeply reflective of the African past and the food insecurity which, although less vicious and visible than before, remains a tangible threat for many Ghanaians. In the same way that the 'demographic transition model' appears to

[6] Destombes, 'Nutrition'; Webber.

be stalling in the African context, there is no reason to assume that an 'epidemiological transition model' will follow European trends either.[7] Food plays a central role in both of these conceptual frameworks but its effects remain poorly understood. In order to better address the health concerns threatening Africa's future, the past trajectory of these transitions must be properly plotted. Although it may not be straight, there is a line between twentieth century epidemics of infantile nutritional illness and the rising incidence of obesity, diabetes and hypertension today. We must recognise that more recent epidemiological change forms part of a broader narrative which traces from famine in the nineteenth century through to adult deficiency in the twenty-first.

[7] See, for instance, *African Population and Capitalism: Historical Perspectives*, ed. by Dennis D. Cordell and Joel W. Gregory (Madison, WI: Univ of Wisconsin Press, 1994).

BIBLIOGRAPHY

Archival sources

Ghana

Public Records and Archives Administration Department, Accra PRAAD/A

ADM/5/4/62, Welfare and mass education in the Gold Coast, 1946-1951

ADM/5/4/121–3, Gold Coast land tenure, 1955

ADM/5/4/199, Soil and general pattern of land use in Ghana

ADM/5/4/348, Ghana medical facilities, 1971

ADM/7/10/1–5, Educational statistics, 1955–1959

ADM/7/10/6, Educational statistics, 1963–1964

ADM/7/10/7, Educational statistics, 1968–1969

ADM/7/13/1–9, Migration statistics, 1953–1965

ADM/11/1/1294, Report of the standing committee to study the important question of human nutrition

ADM/56/1/128, Report on food supply in Frafra, 1911

ADM/56/1/126, Principle Native Foodstuffs (Northern Territories), 1911

ADM/56/1/91, Laws and Customs of the Northern Territories, 1911

CSO/8/1/12, Food supplies in the Northern Territories, 1930-31

CSO/8/1/13, Food supplies in the Northern Territories, 1934

CSO/11/5/1, Maternal mortality and morbidity in the Gold Coast, 1932

CSO/11/6/10, IWC Tamale, 1932

CSO/11/6/4, Infant welfare centres – Principles, 1931-32

CSO/11/11/81, Nutritional Diseases, Distribution of, 1943

CSO/20/6/4, Northern Territories Welfare Committee, 1944-45

Public Records and Archives Administration Department, Kumasi PRAAD/K

ARG/2/1/9, 'Price controls, general, 1948-53'

ARG/2/1/61, Cost of living enquiry, 1960-61

ARG/2/8/111, Ministry of Agriculture, 1973-74

ARG/2/8/118, Food Distribution Corporation, 1974-77

ARG/2/12/17, Operation Feed Yourself, First Phase (Vol. 1), 1972-73

ARG/2/12/25, Operation Feed Yourself, Second Phase (Vol. 1), 1973

ARG/2/12/17, Operation Feed Yourself, Third Phase, (Vol. 4), 1973-77

ARG/2/14/7, Medical Affairs, General, 1954-64

ARG/2/14/3, Medical and Health Services, 1964-74 (Vol. 1)

ARG/2/14/2/5, Food and Nutrition Board 1960-64

ARG/13/3/12, Annual Report MOH, 1957-8

Public Records and Archives Administration Department, Tamale
PRAAD/T

NRG/8/1/85, Land Tenure in the Protectorate and Its Development under the Land and Native Rights Ordinance, 1952-1968

NRG/8/2/209, Cattle in Frafra, 1950

NRG/8/3/204, Economic Surveys and Reports, 1955-1960

NRG/8/6/57, Ghana Food and Nutrition Board, 1964-1968

NRG/8/6/69, Education Dept. Northern Region, 1967-1969

NRG/8/6/91, Food Distribution Corporation, 1973-1974

NRG/8/9/58, Mass Education General, 1964-1975

NRG/8/11/3, Navrongo Food Crop Areas, 1931

NRG/8/11/13, Food Production Drive [Urban Allotments] Including Foods Shortages and Storage, 1946-1950

NRG/8/11/34, Food Production Drive [Urban Allotments] Including Food Shortages, 1950-1958

NRG/8/11/66, Food Production Drive [Urban Allotments] Including Food Shortages, 1958-1962

NRG/8/13/11, Medical Department Policy, 1949-1958

NRG/8/13/18, Health Needs of Ghana, 1951-1964

NRG/8/13/29, Child Welfare Clinic, Tamale, 1954-1963

NRG/8/13/38, Rural Medical Services Including Health Centres, Northern Region, 1958-1959

NRG/8/13/40, Health Education, 1959-1965

NRG/8/17/8, Migrant Labour, 1952-1953

NRG/8/37/1, Famine Relief in Northern Territories, Including Foods Storage, 1947-57

NRG/8/37/3, Food Production Drive, Urban Allotment Including Food Shortages and Storage, 1958

NRG/8/37/4: Food Shortage and Storage in the Northern Region 1959-62

NRG/8/37/5, Food Storage in Northern Region, 1962-66

NRG/8/37/9, Food Shortage and Storage in Northern Region, 1966-74

NRG/8/37/12, Workers Mass Feeding Scheme, 1979-81

NRG/9/4/20, Regional Food and Nutrition Board, 1961-4

NRG/9/4/49: Department of Social Welfare, 1968-70

NRG/9/4/68: Ghana Food Distribution Corporation, 1972-73

NRG/9/11/15, Operation Feed Yourself, 1972

NRG/9/19/1, Food shortage in the Upper Region, 1964-1969

NRG/9/19/2, Food shortage in the Upper Region, 1969-1970

NRG/9/25/1, Emergency Relief, 1963-1968

NRG/10/1/13, Annual Evaluation Report, 1957-1978

NRG/10/1/17, Annual Evaluation Report, 1964-1968

NRG/13/6/4, Health Education, 1964-1965

NRG/14/1/18, Annual Report, 1957-1958

NRG/14/6/7, Migration of Labour, 1952-1953

NRG/18/1/5, Monthly Food Production Reports, 1952-1957

NRG/18/8/1, Diet and nutrition (1930-57)

NRG/18/8/2, Nutrition, 1963-1968

NRG/18/8/3, Nutrition, 1968-1969

Council for Scientific and Industrial Research Library (CSIR), Accra

Baidoo, J.C., Socio-economic, child care practices and nutrition information on mothers and malnourished children attending the Kotobabi Polyclinic Nutrition Rehabilitation Centre (Accra: Food Research Institute, CSIR, 1975)

Boone, S.A., Survey of contemporary Ghana: Nutrition in Ghana (Accra: Nutrition Research Unit, undated, c. 1965)

Clottley, J.A., 'The food Industries of Ghana: an Inventory', in Proceedings of the Frist Seminar on Food Science and Technology in Ghana, ed by J.A. Clottley and K.K. Eyeson (Accra: Food Research Institute, CSIR, 1968)

Dovlo, Florence E., A Study of Infant Feeding Practices in Accra, FRI Research Bulletin (Accra: Food Research Institute, CSIR, 1968)

Erbynn, K.G., Food requirements in Ghana, 1970-1980, Paper presented by the Ghana government representative at the First Regional Agriculture Seminar, Kumasi, Crops Research Institute, 1970

Eyeson, K.E., and E.K. Ankrah, Composition of Foods Commonly Used in Ghana (Accra: Food Research Institute, CSIR, 1975)

Sai, Fred T., Health and Nutrition Status of the Ghanaian People (No publisher listed, undated, c. 1965)

United Kingdom

The National Archives (TNA), Kew

CO/96/345, Gold Coast Despatches, 1899

CO/96/620, Original Correspondence, G, 1920

CO/96/751/14, C.W. Lynn, *Agriculture in North Mamprusi* (Accra: Department of Agriculture, 1937)

CO/323/1570/7, Committee on Nutrition in the Colonial Empire, Economic Advisory Council: papers circulated, 1938

CO/323/1571/5, Nutrition in the British Colonial Empire, summary of replies to circular dispatch of 18 April 1936, November 1937

CO/859/14/6, Report on Nutrition in the Colonial Empire, 1939

CO/859/68/1, Nutrition research survey: Gold Coast, 1941-1943

CO/859/115/3, Gold Coast: extracts from informal colonial medical reports, development plans and other papers [pertaining to nutrition], 1944-1946

CO/927/2/3, Series of reports by Miss P. Ady relating to wages and standards of living in Accra, 1945-1946

FD/12/273, Medical Research Council, Child Nutrition Research Unit (Formerly Infantile Malnutrition Research Unit), Kampala, Uganda, 1961

The British Library, London

Gold Coast Government, *Agricultural Department Annual Reports, 1900-1955* (Accra: Government Printer)*, various microfilms*

———, *Education Department Annual Reports, 1900-1956* (Accra, Government Printer)*, various microfilms*

Bodleian Library of Commonwealth and African Studies at Rhodes House (RH), University of Oxford

Gold Coast Government, *Medical Department Annual Reports, 1929-1955* (Accra: Government Printer)

RH/MSS.Afr.S.1872 Box XX, J.N.P. Davies, Personal Reminiscences

RH/MSS.Afr.S.1872 Box XXXV, H.C. Trowell, Interview, 1982

RH/MSS.Afr.S.2003, Yvonne P. Fox, 'Three chapters of memoirs on life in the Northern Territories of the Gold Coast', c. 1930s

Wellcome Library (WL), London

PP/CDW, Cicely Williams Papers

Data Sets

Bolt, Jutta and Jan Luiten van Zanden, 'The First Update of the Maddison Project: Re-Estimating growth before 1820', 2013 <https://www.clio-infra.eu/datasets/select/indictorr/288/> [accessed 16 November 2014]

Ghana Statistical Service and Institute for Resource Development/Macro Systems, Inc., 'Ghana Demographic and Health Survey, 1988 '

Ghana Statistical Service and Macro International Inc., 'Ghana Demographic and Health Survey, 1993'

———, 'Ghana Demographic and Health Survey, 1998'

Ghana Statistical Service, Noguchi Memorial Institute for Medical Research, and ORC Macro., 'Ghana Demographic and Health Survey, 2003'

Ghana Statistical Service, Ghana Health Service, and ICF Macro., 'Ghana Demographic and Health Survey, 2008'

Ghana Statistical Service, Ghana Health Service, and ICF International, 'Ghana Demographic and Health Survey, 2014'

Moradi, Alexander, 'Men under Arms in Colonial Africa: Gold Coast Regiment', 2009. Anthropometric data provided by the author.

Natural Earth, open source GIS data <http://www.naturalearthdata.com/> [accessed 29 August 2014]

World Bank, various data <https://data.worldbank.org> [accessed 4 January 2016]

United States Geological Survey (USGS), Shuttle Radar Topography Mission (SRTM) data <http://www.opendem.info/download_contours.html> [accessed 9 May 2016]

Governmental Sources

Censuses

Gold Coast Government, *Report on the Census of the Gold Coast Colony for the Year 1891* (Accra: Census Committee, 1892)

———, *Report on the Census for the Year 1901* (Accra: Census Committee, 1902)

———, *The Gold Coast Appendices, Containing Comparative Returns and General Statistics of the 1931 Census* (Accra: Government Printer, 1932)

———, *Census of Population 1948, Report and Tables* (Accra: Government Printer, 1950)

Ghana Government, *1960 Population Census of Ghana* (Accra: Census Office, 1962)

Expenditure Reports

Gold Coast Government, *Agricultural Statistical Survey of South-East Akim Abuakwa 1952-3* (Accra: Office of the Government Statistician, 1953)

———, *1953 Accra Survey of Household Budgets* (Accra: Office of the Government Statistician, 1953)

———, 1954 Akuse survey of household budgets (Accra: Office of the Government Statistician, 1955)

———, *Kumasi Survey of Population and Household Budgets, 1955* (Accra: Office of the Government Statistician, 1956)

———, *Sekondi-Takoradi survey of population and household budgets, 1955* (Accra: Office of the Government Statistician, 1956)

Ghana Government, *Survey of cocoa producing families in Ashanti, 1956-1957* (Accra: Office of the Government Statistician, 1956)

Additional Gold Coast Government Publications

Cardinal, A.W., *The Gold Coast, 1931: A Review of Conditions in the Gold Coast in 1931 as Compared with Those of 1921 Based on Figures and Facts Collected by the Chief Census Officer of 1931, Together with a Historical, Ethnographical and Sociological Survey of the People of That Country* (Accra: Government Printer, 1932)

Fortes, Meyer, *Marriage Law among the Tallensi* (Accra: Government Printer, 1937)

Gold Coast Government, *Gold Coast Nutrition and Cookery* (Edinburgh: Published for the Gold Coast Government by T. Nelson and Sons, 1953)

———, *Report of the Commission of Enquiry into the Health Needs of the Gold Coast* (Accra, Government Printer, 1952)

———, *The Development Plan, 1951: Being a Plan for the Economic and Social Development of the Gold Coast as Approved by the Legislative Assembly, September 1951* (Accra: Government Printer, 1951)

Guggisberg, Frederick Gordon, *The Gold Coast: A Review of the Events of 1920-1926 and the Prospects of 1927-1928* (Accra: Government Printer, 1927)

Labi, Adame, and B. Selormey, *Report on the Enquiry into Begging and Destitution in the Gold Coast, 1954* (Accra: Government Printer, 1955)

Lewis, W. Arthur, *Report on Industrialisation and the Gold Coast* (Accra: Government Printer, 1953)

Tooth, Geoffrey, *A Survey of Juvenile Delinquency in the Gold Coast* (Accra: Government Printer, 1946)

Tudhope, W.S., *Enquiry into the Gold Coast Cocoa Industry: Final Report, 1918-1919* (Accra: Government Printer, 1919)

Additional Ghana Government Publications

Acheampong, I.K., *Two Years in Office of Colonel Ignatius Kutu Acheampong, 13th January 1972-12th January 1974* (Accra: Office of the Press Secretary to the National Redemption Council, 1974)

Bernasko, F.G., 'Opening Address: Ghana's Operation Feed Yourself Programme', in *Food and Population: Ghana's Operation Feed Yourself Programme -a Case Study, Report of the 26th Annual New Year School of the Institute of Adult Education, 30 December 1974-8 January 1975*, ed. by Institute of Adult Education, University of Ghana (Legon: University of Ghana, 1975)

Ghana Government, *Economic Survey, 1968* (Accra: Government Printer, 1969)

———, *Enhancing the Human Impact of the Adjustment Programme: Report Prepared by the Government of Ghana for the Sixth Meeting of the Consultative Group for Ghana, Paris, 14-15 May 1991* (Accra: Government Printer, 1991)

———, *National Food and Nutrition Board, Progress Report, 1st October 1960 – April 1961* (Accra: National Food and Nutrition Board, 1961)

———, *The Nutrition of Adults in Northern Ghana: A Report of the National Nutrition Survey of the National Food and Nutrition Board* (Accra: Mimeo., 1962)

———, *Poverty Trends in Ghana in the 1990s* (Accra: Ghana Statistical Service, 2000)

———, *Programme of Actions to Mitigate the Social Costs of Adjustment* (Accra: Government Printer, 1987)

———, *Report of the Commission of Enquiry into Trade Malpractices in Ghana* (Ghana: Ministry of Information, 1965)

———, *Seven-Year Plan for National Reconstruction and Development: Financial Years 1963/64-1969/70* (Accra: Office of the Planning Commission, 1964)

Konotey-Ahulu, F.I.D., *Report of the Committee Appointed to Investigate Hospital Fees, 1970* (Accra: Government Printer, 1973)

UK and other Colonial Government Publications

Callwell, C.E., *Small Wars: Their Principles and Practice* (London: HMSO, 1896)

Dow, Hugh, *East Africa Royal Commission 1953-1955 Report* (London: HMSO, 1955)

Orr, J.B., and J.L. Gilks, *Studies of Nutrition: The Physique and Health of Two African Tribes* (London: HMSO, 1931)

McCance, R.A., 'The History, Significance and Aetiology of Hunger Oedema', in *Studies of Undernutrition, Wuppertal 1946-9: Medical Research Council Special Report Series, No. 275*, ed. by Department of Experimental Medicine University of Cambridge (London: HMSO, 1951), pp. 21–82

McCulloch, W. E., *An Inquiry into the Dietaries of the Hausas and Town Fulani of Northern Nigeria, with Some Observations of the Effects on the National Health, with Recommendations Arising Therefrom* (Lagos: Government Printer, 1930)

Uganda Government, *Review of Nutrition in Uganda: A Summary of Previous Work and An Appreciation of the Present Position* (Entebbe: Government Printer, 1945)

Watson, Andrew Aiken, *Statement by His Majesty's Government on the Report of the Commission of Enquiry into Disturbances in the Gold Coast, 1948.* (London: HMSO, 1948)

Non-Governmental Sources

Newspapers and Magazines

'Colonies and Calories', *West African Review*, March 1946, 255–56

Freeman, T.B., 'Life and Travels on the Gold Coast', *The Western Echo* (Cape Coast, 6 March 1886), p. 8

———, 'Life and Travels on the Gold Coast', *The Western Echo* (Cape Coast, 24 February 1886), p. 8

Hailey, Malcolm, 'Nutrition in the Colonies', *The Times* (London, England, 26 July 1939), p. 15

'Labour Problems of the Gold Coast Are Being Faced', *West African Review*, December 1942, 18

Motavalli, Jim, 'Let Them Eat Plumpy'Nut', *Foreign Policy*, 8 October 2009 <https://foreignpolicy.com/2009/10/08/let-them-eat-plumpynut/> [accessed 15 June 2016]

'Nutrition in West Africa', *West African Review*, June 1946, 618–19

Posnansky, Merrick, 'How Ghana's Crisis Affects a Village', *West Africa*, 1 December 1980, pp. 2418–40

Purcell, F.M., 'The Gold Coast Government, the Colonial Office, and Nutrition: Facts of an Astonishing Colonial Episode, Letters to the Editor', *West Africa*, 4 December 1943, p. 1095

Rana, Preetika, 'Nestlé's Noodles Face More Scrutiny in India', *Wall Street Journal*, 31 March 2016 <http://www.wsj.com/articles/nestles-noodles-face-more-scrutiny-in-india-1459428231> [accessed 9 August 2016]

Unpublished PhDs and Conference Papers

Bening, R. Bagulo, 'The Evolution of the Administrative Boundaries of Northern Ghana, 1898-1965' (unpublished PhD, University of London, 1971)

Destombes, Jérôme, 'Nutrition and Chronic Deprivation in the West African Savanna: North-Eastern Ghana, C. 1930-2000' (unpublished PhD, London School of Economics, 2001)

Haushofer, Lisa, 'Darby's Fluid Meat: Artificially Digested Foods and the Pathophysiology of Sickness' (presented at the Dietary Innovation and Disease in the 19th and 20th Centuries, San Servolo Island, Venice, 2016)

van der Mei, Jeltje, '26 Years of Paediatric Practice in Rural Ghana: Child Health in Ashanti-Akim District, Working towards a Comprehensive Approach' (unpublished PhD, University of Groningen, 2005)

Merchant, Emily R., 'Prediction and Control: Global Population, Population Science, and Population Politics in the Twentieth Century' (unpublished PhD, University of Michigan, 2015)

Scott-Smith, Tom, 'Defining Hunger, Redefining Food: Humanitarianism in the Twentieth Century' (unpublished D.Phil, University of Oxford, 2014)

Serra, Gerardo, 'From Scattered Data to Ideological Education: Economics, Statistics and the State in Ghana, 1948-1966' (unpublished PhD, London School of Economics, 2015)

Serra, Gerardo, 'Towards a Political Economy of Statistics: A Study of Household Budget Surveys in the Gold Coast, 1945-1957' (presented at the African Economic Development: Measuring Success and Failure, Simon Fraser University, Vancouver, 2013

Tappan, Jennifer, '"A Healthy Child Comes from a Healthy Mother": Mwanamugimu and Nutritional Science in Uganda, 1935-1973' (unpublished PhD, Columbia University, 2010)

Williams, Cicely D., 'The Mortality and Morbidity of the Children of the Gold Coast' (unpublished MD, University of Oxford, 1936)

Books and Reports

Acquah, Ioné, Accra Survey: A Social Survey of the Capital of Ghana, Formerly Called the Gold Coast, Undertaken for the West Africa Institute of Social and Economic Research, 1953-1956 (London: University of London Press, 1958)

Addae, Stephen, *The Evolution of Modern Medicine in a Developing Country: Ghana 1880-1960* (Bishop Auckland: Durham Academic Press, 1996)

Addo, Nelson Otu, Margaret Peil, and A.K. Quarcoo, *Madina Survey: A Study of the Structure and Development of a Contemporary Sub-Urban Settlement* (Legon: University of Ghana, 1967)

Agarwal, Seema, *Bearing the Weight: The Kayayoo, Ghana's Working Girl Child* (Legon: University of Ghana, 1997)

Ahmad, Naseem, *Deficit Financing, Inflation and Capital Formation: The Ghanaian Experience 1960-65* (München: Weltforum Verlag, 1970)

Ainsworth, Mary D. Salter, *Infancy in Uganda: Infant Care and the Growth of Love* (Baltimore: Johns Hopkins Press, 1967)

Akon, Samuel, Adam Anaba, David Spratt, and Tony Naden, *Kusaas Siilima: Kusaasi Proverbs* (Tamale: Ghana Institute of Linguistics, 1980)

Alderman, Harold, *Nutritional Status in Ghana and Its Determinants*, Social Dimensions of Adjustment (Washington, D.C.: World Bank, 1990), pp. 1–52

Alderman, Harold, and Paul A. Higgins, *Food and Nutritional Adequacy in Ghana* (Ithaca, N.Y.: Cornell Food and Nutrition Policy Program, 1992), pp. 1–61

Allan, William, *The African Husbandman* (Edinburgh: Oliver & Boyd, 1967)

Allman, Jean, *The Quills of the Porcupine: Asante Nationalism in an Emergent Ghana* (Madison, WI: University of Wisconsin Press, 1993)

Allman, Jean, and Victoria Tashjian, *'I Will Not Eat Stone': A Women's History of Colonial Asante*, Social History of Africa (Oxford: James Currey, 2000)

Amadiume, Ifi, *Male Daughters, Female Husbands: Gender and Sex in African Society* (London: Zed, 1987)

Amin, Samir, *Unequal Development: An Essay on the Social Formations of Peripheral Capitalism* (Hassocks: Harvester Press, 1976)

Anderson, Emma-Louise, *Gender, HIV and Risk: Navigating Structural Violence*, Gender and Politics (Basingstoke: Palgrave Macmillan, 2015)

AngloGold Ashanti, 'Case Study: Creating a Sustainable Solution for Malaria in Continental Africa Region', 2013 <http://www.aga-reports.com/13/os/case-study/car-malaria> [accessed 3 August 2016]

Ardayfio-Schandorf, Elizabeth, *Rural Energy Crisis in Ghana: Its Implications for Women's Work and Household Survival* (Geneva: International Labour Organization, 1986)

Armstrong, George, *An Essay on the Diseases Most Fatal to Infants* (London: T. Cadell, 1771)

Aryeetey, Ernest, and Andrew McKay, *Operationalizing pro-Poor Growth: A Country Case Study on Ghana* (Washington, D.C.: World Bank, 1 October 2004), pp. 1–72

Austin, Dennis, *Politics in Ghana, 1946-1960* (Oxford: Oxford University Press, 1970)

Austin, Gareth, *Labour, Land, and Capital in Ghana: From Slavery to Free Labour in Asante, 1807-1956* (Rochester, NY: University of Rochester Press, 2005)

Autret, M., and M. Behar, *Síndrome Policarencial Infantil (Kwashiorkor) and Its Prevention in Central America* (Rome: FAO Nutritional Studies, no. 13, 1954)

Awedoba, A.K., *An Introduction to Kasena Society and Culture through Their Proverbs* (Lanham, Maryland: University Press of America, 2000)

Baataar, Cuthbert, *Malnourished Infants in Nandom Rehabilitation Centre: A Case Study of Deficits in Care* (Legon: University of Ghana, 2005)

Bashford, Alison, *Global Population: History, Geopolitics, and Life on Earth* (Columbia University Press, 2014)

Bayart, Jean-François, *The State in Africa: The Politics of the Belly* (London: Longman, 1993)

Beckett, W.H., *Akokoaso: A Survey of a Gold Coast Village* (London: P. Lund, Humphries & Co., 1944)

Bemille, Sebastian K., *Dàgàrà Proverbs* (Berlin: Dietrich Reimer, 2010)

Bening, R. Bagulo, *A History of Education in Northern Ghana, 1907-1976* (Accra: Ghana Universities Press, 1990)

———, *Ghana: Administrative Areas and Boundaries, 1874-2009* (Accra: Ghana Universities Press, 2010)

———, *Ghana: Regional Boundaries and National Integration* (Accra: Ghana Universities Press, 1999)

Benneh, G., J. Songsore, J.S. Nabila, A.T. Amuzu, K.A. Tutu, Y Yangyuoru, and others, *Environmental Problems and the Urban Household in the Greater Accra Metropolitan Area* (Stockholm: Stockholm Environment Institute, 1993)

Berg, Elliot, *Accelerated Development in Sub-Saharan Africa: An Agenda for Action* (Washington, D.C.: World Bank, 1981), pp. 1–217

Bernstein, Henry, *Class Dynamics of Agrarian Change*, Agrarian Change and Peasant Studies Series (Halifax, N.S: Fernwood, 2010)

Bledsoe, Caroline, *Contingent Lives: Fertility, Time, and Aging in West Africa* (Chicago, IL: University of Chicago Press, 2002)

Boahen, Albert Adu, *The Ghanaian Sphinx: reflections on the contemporary history of Ghana 1972-1987* (Accra: Ghana Academy of Arts and Sciences, 1989)

Boateng, E.A., *A Geography of Ghana* (Cambridge: Cambridge University Press, 1966)

Boserup, Ester, *Women's Role in Economic Development* (London: George Allen & Unwin, 1971)

Bowdich, T.E., *Mission from Cape Coast Castle to Ashantee: With a Statistical Account of That Kingdom and Geographical Notices of Other Parts of the Interior of Africa* (London: John Murray, 1819)

———, *The British and French Expeditions to Teembo: With Remarks on Civilization in Africa* (Paris: J. Smith, 1821)

Brantley, Cynthia, *Feeding Families: African Realities and British Ideas of Nutrition and Development in Early Colonial Africa* (Portsmouth, N.H.: Heinemann, 2002)

Brock, J. F., and M. Autret, *Kwashiorkor in Africa* (Rome: FAO, Nutritional Studies, no. 8, 1952)

Bruce, Maurice, *The Rise of the Welfare State: English Social Policy, 1601-1971* (London: Weidenfeld and Nicolson, 1973)

Brydon, Lynne, and Karen Legge, *Adjusting Society: The World Bank, the IMF and Ghana* (London: Tauris Academic Studies, 1996)

Burton, Richard Francis, and Verney Lovett Cameron, *To the Gold Coast for Gold: A Personal Narrative* (London: Chatto and Windus, 1883)

Busia, K.A., *Report on a Social Survey of Sekondi-Takoradi* (London: Crown Agents for the Colonies on behalf of the Govt. of the Gold Coast, 1950)

———, *The Position of the Chief in the Modern Political System of Ashanti: A Study of the Influence of Contemporary Social Changes on Ashanti Political Institutions.* (London: Published for the International African Institute by Oxford University Press, 1951)

Caldwell, John C., *African Rural-Urban Migration: The Movement to Ghana's Towns* (Canberra: Australian National University Press, 1969)

Cardinal, A.W., *In Ashanti and Beyond* (London: Seeley, Service & Co., 1927)

———, *The Natives of the Northern Territories of the Gold Coast: Their Customs, Religion and Folklore* (London: George Routledge & Sons, 1920)

Carpenter, Kenneth J., *Beriberi, White Rice, and Vitamin B: A Disease, a Cause, and a Cure* (Berkeley, CA: University of California Press, 2000)

———, *Protein and Energy* (Cambridge: Cambridge University Press, 1994)

Castro, Josué de, *The Geography of Hunger* (Boston: Little, Brown, 1952)

Chazan, Naomi, *An Anatomy of Ghanaian Politics: Managing Political Recession 1969-1982* (Boulder, CO: Westview Press, 1983)

Chetley, Andrew, *The Politics of Baby Foods* (London: F. Pinter, 1986)

Christaller, Johann Gottlieb, *A Dictionary of the Asante and Fante Language Called Tshi (Chwee, Twi)* (Basel: Evangelical Missionary Society, 1881)

Clapp, Jennifer, *Hunger in the Balance: The New Politics of International Food Aid* (Ithaca, N.Y.: Cornell University Press, 2012)

Clark, Gracia, *Onions Are My Husband: Survival and Accumulation by West African Market Women* (Chicago: University of Chicago Press, 1994)

Conrad, Joseph, *Heart of Darkness* (London: Penguin, 2007)

Cordell, Dennis D., and Joel W. Gregory, eds., *African Population and Capitalism: Historical Perspectives* (Madison, WI: Univ of Wisconsin Press, 1994)

Cornia, Giovanni Andrea, Richard Jolly, and Frances Stewart, eds., *Adjustment with a Human Face*, 2 vols (Oxford: Clarendon Press, 1987)

Craddock, Sally, *Retired except on Demand: The Life of Doctor Cicely Williams.* (Oxford: Green College, 1983)

Crisp, Jeff, *The Story of an African Working Class: Ghanaian Miners Struggles, 1870-1980* (London: Zed Books, 1984)

Curtin, Philip D., *Death by Migration: Europe's Encounter with the Tropical World in the Nineteenth Century* (Cambridge: Cambridge University Press, 1989)

Curtis, Sian L., *Assessment of the Quality of Data Used for Direct Estimation of Infant and Child Mortality in DHS-II Surveys*, DHS Occasional Papers (Calverton, MD: Macro International, 1995), pp. 1–73

Czerny, A., and A. Keller, *Des Kindes Ernährung, Ernährungsstörungen Und Ernährungstherapie* (Leipzig: Franz Deuticke, 1906)

Danquah, J.B., *Gold Coast: Akan Laws and Customs and the Akim Abuakwa Constitution* (London: G. Routledge & Sons, 1928)

Davies, J.N.P., *Pestilence and Disease in the History of Africa* (Johannesburg: Witwatersrand University Press, 1979)

Davis, Mike, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (Taylor & Francis, 2002)

Der, Benedict G., *The Slave Trade in Northern Ghana* (Accra: Woeli, 1998)

Destombes, Jerôme, *Nutrition and Economic Destitution in Northern Ghana, 1930-1957. A Historical Perspective on Nutritional Economics*, Economic History Working Papers (London: Department of Economic History, LSE, 1999), pp. 1–63

De Waal, Alex, *Famine Crimes: Politics and the Disaster Relief Industry in Africa* (Oxford: Currey, 1997)

Doku, E.V., *Cassava in Ghana* (Accra: Ghana Universities Press, 1969)

Doyle, Shane, *Before HIV: Sexuality, Fertility and Mortality in East Africa, 1900-1980* (Oxford: Oxford University Press, 2013)

Dupuis, Joseph, *Journal of a Residence in Ashantee: Comprising Notes and Researches Relative to the Gold Coast and the Interior of Western Africa; Chiefly Collected from Arabic Mss. and Information Communicated by the Moslems of Guinea; to Which Is Prefixed an Account of the Origin and Causes of the Present War* (London: H. Colburn, 1824)

Dzorgbo, Dan-Bright S., *Ghana in Search of Development: The Challenge of Governance, Economic Management and Institution Building* (Aldershot: Ashgate, 2001)

Elkins, Caroline, *Britain's Gulag: The Brutal End of Empire in Kenya* (London: Jonathan Cape, 2005)

Ewusi, Kodwo, *Economic Inequality in Ghana* (Legon: University of Ghana, 1977)

———, *The Distribution of Monetary Incomes in Ghana* (Legon: University of Ghana, 1971)

FAO, *FAO Production Yearbook* (Rome: FAO, 1980)

FAO Committee on Protein Requirements, *Protein Requirements* (Rome: FAO Nutritional Studies, no. 16, 1957)

FAO/WHO Expert Group, *Protein Requirements* (Geneva: WHO Technical Report, no. 301, 1965)

FAO/WHO/UNICEF Protein Advisory Group, *Lives in Peril: Protein and the Child.* (Rome: FAO, World Food Problems, no. 12, 1970)

Ferguson, James, *Global Shadows: Africa in the Neoliberal World Order* (Durham, N.C.: Duke University Press, 2006)

Field, M.J., *Religion and Medicine of the Gã People* (Oxford: Oxford University Press, 1937)

———, *Search for Security: An Ethno-Psychiatric Study of Rural Ghana* (London: Faber and Faber, 1960)

Fildes, Valerie A., *Breasts, Bottles and Babies: A History of Infant Feeding* (Edinburgh: Edinburgh University Press, 1985)

Firmin-Sellers, Kathryn, *The Transformation of Property Rights in the Gold Coast: An Empirical Analysis Applying Rational Choice Theory* (Cambridge: Cambridge University Press, 1996)

Fisher, Kate, *Birth Control, Sex, and Marriage in Britain 1918-1960* (Oxford: Oxford University Press, 2006)

Fitch, Robert Beck, and Mary Oppenheimer, *Ghana: End of an Illusion* (London: Monthly Review Press, 1968)

Fleur, James D. La, *Fusion Foodways of Africa's Gold Coast in the Atlantic Era* (Leiden: Brill, 2012)

Fortes, Meyer, *The Dynamics of Clanship among the Tallensi: Being the First Part of an Analysis of the Social Structure of a Trans-Volta Tribe* (Oxford: Oxford University Press, 1945)

———, *The Web of Kinship among the Tallensi: The Second Part of an Analysis of the Social Structure of a Trans-Volta Tribe* (Oxford: Oxford University Press, 1949)

Foster, Philip, *Education and Social Change in Ghana* (London: Routledge & Kegan Paul, 1965)

Foucault, Michel, *Society Must Be Defended: Lectures at the Collège de France, 1975-76* (London: Penguin, 2004)

———, *The History of Sexuality. Vol. 1: The Will to Knowledge* (London: Penguin, 1979)

Frank, André Gunder, *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brazil* (London: Monthly Review, 1967)

Freeman, R. Austin, *Travels and Life in Ashanti and Jaman* (London: A. Constable & Co., 1898)

Frimpong-Ansah, J.H., *The Vampire State in Africa: The Political Economy of Decline in Ghana* (James Currey, 1991)

Galen, *Galen on Food and Diet, Translation and Notes by Mark Grant* (London: Routledge, 2000)

van der Geest, Kess, *We're Managing!: Climate Change and Livelihood Vulnerability in Northwest Ghana* (Leiden: African Studies Centre, 2004)

Glewwe, Paul, and Kwaku A. Twum-Baah, *The Distribution of Welfare in Ghana, 1987-88* (Washington, D.C.: World Bank, 1991), pp. 1–108

Goody, Esther, *Parenthood and Social Reproduction: Fostering and Occupational Roles in West Africa* (Cambridge: Cambridge University Press, 1982)

Goody, Jack, *Cooking, Cuisine and Class: A Study in Comparative Sociology* (Cambridge: Cambridge University Press, 1982)

Gordon, Linda Perlman, *Woman's Body, Woman's Right: Birth Control in America* (New York, NY: Penguin, 1990)

Gould, Peter R., *The Development of the Transportation Pattern in Ghana* (Evanston, Ill.: Department of Geography, Northwestern University, 1960)

Grant, Faye Woodard, *The Nutrition and Health of Children in the Gold Coast* (Chicago: University of Chicago, 1955)

Grischow, Jeff D., *Globalisation, Development and Disease in Colonial Northern Ghana, 1906-1960*, WOPAG - Working Paper on Ghana: Historical and Contemporary Studies (Helskini: Institute of Asian and African Studies, University of Helsinki, 2006), pp. 1–31

———, *Tsetse and Trypanosomiasis in the Gold Coast, 1924-1954*, WOPAG - Working Paper on Ghana: Historical and Contemporary Studies (Helskini: Institute of Asian and African Studies, University of Helsinki, 2005), pp. 1–22

———, *Shaping Tradition: Civil Society, Community and Development in Colonial Northern Ghana, 1899-1957* (Leiden: Brill, 2006)

Guyer, Jane I., *Marginal Gains: Monetary Transactions in Atlantic Africa* (Chicago: University of Chicago Press, 2004)

Harrison, Paul, *The Greening of Africa: Breaking through in the Battle for Land and Food* (London: Paladin, 1987)

Harvey, David, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2005)

Hawkins, Sean, *Writing and Colonialism in Northern Ghana: The Encounter Between the LoDagaa and 'the World on Paper'* (Toronto: University of Toronto Press, 2002)

Haynes, Douglas M., *Imperial Medicine: Patrick Manson and the Conquest of Tropical Disease* (Philadelphia: University of Pennsylvania Press, 2001)

Hill, Polly, *The Gold Coast Cocoa Farmer: A Preliminary Survey* (Oxford: Oxford University Press, 1956)

———, *The Migrant Cocoa-Farmers of Southern Ghana: A Study in Rural Capitalism* (Cambridge: Cambridge University Press, 1963)

Hoorweg, Jan, and Ian McDowell, *Evaluation of Nutrition Education in Africa: Community Research in Uganda, 1971-1972* (The Hague: Mouton, 1979)

Hopkins, A.G., *An Economic History of West Africa* (London: Longman, 1973)

Howard, Mary, and Ann V. Millard, *Hunger and Shame: Poverty and Child Malnutrition on Mount Kilimanjaro* (London: Routledge, 1997)

Howard, Rhoda E., *Colonialism and Underdevelopment in Ghana* (London: Croom Helm, 1978)

Howard, Richard Baron, *An Inquiry into the Morbid Effects of Deficiency of Food, Chiefly with Reference to Their Occurrence amongst the Destitute Poor* (London: Simpkin, Marshall and Co., 1839)

Hutchful, Eboe, *Ghana's Adjustment Experience: The Paradox of Reform* (Oxford: James Currey, 2002)

———, *The IMF and Ghana: The Confidential Record* (London: Zed, 1987)

Iliffe, John, *Africans: The History of a Continent* (Cambridge: Cambridge University Press, 1995)

———, *East African Doctors: A History of the Modern Profession* (Cambridge: Cambridge University Press, 2002)

———, *Famine in Zimbabwe, 1890-1960* (Gweru: Mambo Press, 1990)

———, *The African Poor: A History* (Cambridge: Cambridge University Press, 1987)

Ittmann, Karl, *A Problem of Great Importance: Population, Race, and Power in the British Empire, 1918-1973* (Berkeley, CA: University of California Press, 2014)

Janzen, John M., *The Quest for Therapy in Lower Zaire* (Berkeley: University of California Press, 1978)

Johnson-Hanks, Jennifer, *Uncertain Honor: Modern Motherhood in an African Crisis* (Chicago, IL: University of Chicago Press, 2006)

Johnson, Marion, ed., *Salaga Papers* (Legon: University of Ghana, 1965)

Kakwani, N., *On Measuring Undernutrition* (Helsinki: WIDER, 1986)

Kay, Geoffrey Barry, *The Political Economy of Colonialism in Ghana: A Collection of Documents and Statistics, 1900-1960* (Cambridge: Cambridge University Press, 1972)

Kaye, Barrington, *Bringing up Children in Ghana: An Impressionistic Survey* (London: George Allen & Unwin, 1962)

Keen, David, *The Benefits of Famine: A Political Economy of Famine and Relief in Southwestern Sudan, 1983-1989* (Oxford: James Currey, 1994)

Keys, A., J Brozek, A. Henschel, O. Michelsen, and H.L. Taylor, *The Biology of Human Starvation* (Minneapolis: University of Minnesota Press, 1950)

Killick, Tony, *Development Economics in Action: A Study of Economic Policies in Ghana* (London: Heinemann, 1978)

Knodel, John E., *Demographic Behaviour in the Past: A Study of Fourteen German Village Populations in the Eighteenth and Nineteenth Centuries* (Cambridge: Cambridge University Press, 1988)

Komlos, John, ed., *Stature, Living Standards, and Economic Development: Essays in Anthropometric History* (Chicago: University of Chicago Press, 1994)

Konings, Piet, *The State and Rural Class Formation in Ghana: A Comparative Analysis* (London: KPI, 1986)

Kpedekpo, G.M.K., *Studies on Vital Registration Data from the Compulsory Registration Areas of Ghana, 1962-1967* (Legon: University of Ghana, 1970)

Kponkpogori, C.S., C.J. Natomah, and O. Rytz, *Gonja Proverbs* (Legon: University of Ghana, 1966)

Kuhanen, Jan, *Poverty, Health, and Reproduction in Early Colonial Uganda* (University of Joensuu: Faculty of Humanities, 2005)

Kunfaa, Ernest Y., *Consultations with the Poor: Ghana Country Synthesis Report* (Kumasi: CEDEP on behalf of the World Bank, 1999), pp. 1–89

Ladouceur, Paul André, *Chiefs and Politicians: The Politics of Regionalism in Northern Ghana* (London: Longman, 1979)

Latour, Bruno, *Science in Action: How to Follow Scientists and Engineers through Society* (Milton Keynes: Open University Press, 1987)

Lavy, Victor, John Strauss, Duncan Thomas, and Philippe De Vreyer, *The Impact of the Quality of Health Care on Children's Nutrition and Survival in Ghana*, Living Standards Measurement Study (Washington, D.C.: World Bank, 1995), pp. 1–68

Lentz, Carola, *Ethnicity and the Making of History in Northern Ghana* (Edinburgh: Edinburgh University Press, 2006)

Lewis, M. Paul, Charles D. Fennig, and Gary F. Simons, *Ethnologue: Languages of the World*, Nineteenth ed. (Dallas, TX: SIL International, 2016)

Lock, Margaret, and Vinh-Kim Nguyen, *An Anthropology of Biomedicine* (Oxford: Wiley-Blackwell, 2010)

Macdonald, George, *The Gold Coast, Past and Present: A Short Description of the Country and Its People* (London: Longmans, Green & Co., 1898)

MacGregor, D.R., *Non-Traditional Food Sources for Feeding Increasing Populations: An Inaugural Lecture Delivered on Thursday, 26th October 1972, at the University of Ghana, Legon* (Accra: University of Ghana, 1972)

Mamdani, Mahmood, *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism* (Princeton, N.J.: Princeton University Press, 1996)

———, *Politics and Class Formation in Uganda* (London: Heinemann, 1976)

Marmot, M.G., *Status Syndrome: How Your Social Standing Directly Affects Your Health* (London: Bloomsbury, 2005)

Marshall, Alfred, *Principles of Economics*, 8th edn (London: Macmillan & Co., 1920)

Maxwell, Daniel G., Carol E. Levin, Margaret Armar-Klemesu, Marie T. Ruel, Saul Sutkover Morris, and Clement Ahiadeke, *Urban Livelihoods and Food and Nutrition Security in Greater Accra, Ghana:* (International Food Policy Research Institute (IFPRI), 2000)

McCaskie, T.C., *Asante Identities: History and Modernity in an African Village, 1850-1950* (Edinburgh: Edinburgh University Press, 2001)

———, *State and Society in Pre-Colonial Asante* (Cambridge: Cambridge University Press, 1995)

Meillassoux, Claude, *Maidens, Meal and Money: Capitalism and the Domestic Community* (Cambridge: Cambridge University Press, 1981)

Metcalfe, G.E., *Great Britain and Ghana: Documents of Ghana History, 1807-1957* (London: Thomas Nelson & Sons for the University of Ghana, 1964)

Miescher, Stephan, *Making Men in Ghana* (Bloomington: Indiana University Press, 2005)

Mikell, Gwendolyn, *Cocoa and Chaos in Ghana* (New York: Paragon House, 1989)

Mill, James, *An Essay on Government*, ed. by Currin V. Shields (Indianapolis: Bobbs-Merrill, 1955)

Moore, Henrietta L., and Megan Vaughan, *Cutting down Trees: Gender, Nutrition, and Agricultural Change in the Northern Province of Zambia, 1890-1990*, Social History of Africa (London: James Currey, 1994)

Moradi, Alexander, Gareth Austin, and Joerg Baten, *Heights and Development in a Cash-Crop Colony: Living Standards in Ghana, 1870-1980* (ERSA, 2013)

Muller, Mike, *The Baby Killer: A War on Want Investigation into the Promotion and Sale of Powdered Milks in the Third World.* (London: War on Want, 1974)

Nkrumah, Kwame, *Axioms of Kwame Nkrumah* (London: Panaf, 1969)

———, *Neo-Colonialism: The Last Stage of Imperialism* (London: Panaf, 1965)

North, J., *Women in National Development in Ghana* (Washington D.C.: USAID, 1975)

Norton, Andy, Ellen Bortei-Doku Aryeetey, David Korboe, and D.K. Tony Dogbe, *Poverty Assessment in Ghana - Using Qualitative and Participatory Research Methods*, PSP Discussion Pape (Washington, D.C.: The World Bank, 1995), pp. 1–95

Nyanteng, V. K., and G. J. Van Apeldoorn, *The Farmer and the Marketing of Foodstuffs* (Legon: University of Ghana, 1971)

Oelbaum, Jay, *Spatial Poverty Traps and Ethnic Conflict Traps: Lessons from Northern Ghana's 'Blood Yams'* (London: Overseas Development Institute, 2010)

Ofori-Sarpong, E., *Impact of Drought in Ghana and Upper Volta, 1970-1977* (Legon: University of Ghana, 1980)

Ó Gráda, Cormac, *Black '47 and beyond: The Great Irish Famine in History, Economy, and Memory*, The Princeton Economic History of the Western World (Princeton, N.J: Princeton University Press, 1998)

———, *Famine: A Short History* (Princeton, N.J.: Princeton University Press, 2009)

Okali, C., and R.A. Kotey, *Akokoaso: A Resurvey* (Legon: University of Ghana, 1971)

Omari, T. Peter, *Kwame Nkrumah: The Anatomy of an African Dictatorship* (London: C. Hurst & Co., 1970)

Oppong, Christine, *Growing up in Dagbon* (Tema: Ghana Publishing Corporation, 1973)

———, *Middle Class African Marriage: A Family Study of Ghanaian Senior Civil Servants* (London: George Allen & Unwin, 1981)

Oti-Boateng, E., Kodwo Ewusi, Ravi Kanbur, and Andrew McKay, *A Poverty Profile for Ghana, 1987–88*, Social Dimensions of Adjustment in Sub-Saharan Africa Working Paper, 5 (Washington, D.C.: World Bank, 1990)

Palmer, Gabrielle, *The Politics of Breastfeeding: When Breasts Are Bad for Business* (London: Pinter & Martin, 2009)

Patterson, K. David, *Health in Colonial Ghana: Disease, Medicine, and Socio-Economic Change, 1900-1955* (Waltham, Mass.: Crossroads Press, 1981)

Perkins, John H., *Geopolitics and the Green Revolution: Wheat, Genes, and the Cold War* (Oxford: Oxford University Press, 1997)

Platt, B.S., and Jean Mayer, *Report of a Joint FAO/WHO Mission to Ghana* (Rome: WHO/FAO, 1959)

Poleman, Thomas T., *The Food Economies of Urban Middle Africa: The Case of Ghana* (Stanford, C.A.: Food Research Institute, Stanford University, 1961)

Pollan, Michael, *In Defence of Food: The Myth of Nutrition and the Pleasures of Eating* (London: Allen Lane, 2008)

Price, Weston A., *Nutrition and Physical Degeneration: A Comparison of Primitive and Modern Diets and Their Effects.* (London: P.B. Hoeber, 1939)

Purcell, F.M., *Diet and Ill-Health in the Forest Country of the Gold Coast* (London: Lewis, 1939)

Rathbone, Richard, *Nkrumah and the Chiefs: The Politics of Chieftaincy in Ghana, 1951-1960* (Oxford: James Currey, 1999)

Rattray, R.S., *Ashanti* (Oxford: Clarendon Press, 1923)

———, *Ashanti Law and Constitution* (Oxford: Oxford University Press, 1929)

———, *Ashanti Proverbs: The Primitive Ethics of a Savage People* (Oxford: Clarendon Press, 1916)

———, *Religion and Art in Ashanti* (Oxford: Clarendon Press, 1927)

———, *The Tribes of the Ashanti Hinterland* (Oxford: Clarendon Press, 1932)

Richards, A.I., *Land, Labour and Diet in Northern Rhodesia: An Economic Study of the Bemba Tribe* (London: Oxford University Press, 1939)

Riedmann, Agnes Czerwinski, *Science That Colonizes: A Critique of Fertility Studies in Africa* (Philadelphia: Temple University Press, 1993)

Rijpma, Sjoerd, *David Livingstone and the Myth of African Poverty and Disease: A Close Examination of His Writing on the Pre-Colonial Era* (Leiden: Brill, 2015)

Rimmer, Douglas, *Staying Poor: Ghana's Political Economy, 1950-1990* (Oxford: Pergamon Press, 1992)

Robertson, Claire, *Sharing the Same Bowl?: A Socioeconomic History of Women and Class in Accra, Ghana* (Bloomington: Indiana University Press, 1984)

Rodney, Walter, *How Europe Underdeveloped Africa* (Washington, D.C.: Howard University Press, 1974)

Ruel, Marie T., James L. Garrett, Saul S. Morris, Daniel Maxwell, Arne Oshaug, Patrice Engle, and others, *Urban Challenges to Food and Nutrition Security: A Review of Food Security, Health, and Caregiving in the Cities* (Washington, D.C.: IFPRI FCND Discussion Paper No. 51, 1998)

Said, Edward W., *Orientalism* (London: Routledge & Kegan Paul, 1978)

Sai, Fred T., *Dr Fred Sai Speaks out* (London: International Planned Parenthood Federation, 1994)

Sarris, Alexander, and Hadi Shams, *Ghana under Structural Adjustment: The Impact on Agriculture and the Rural Poor* (New York: New York University Press for IFAD, 1991)

Schildkrout, Enid, *People of the Zongo: The Transformation of Ethnic Identities in Ghana* (Cambridge: Cambridge University Press, 1978)

Scott, David, *Epidemic Disease in Ghana 1901-1960* (London: Oxford University Press, 1965)

Scrinis, Gyorgy, *Nutritionism: The Science and Politics of Dietary Advice* (New York: Columbia University Press, 2013)

Seers, Dudley, and Claud Richard Ross, *Report on Financial and Physical Problems of Development in the Gold Coast* (Accra: Office of the Government Statistician, 1952)

Sen, Amartya, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford University Press, 1981)

Sen, Amartya, *Development as Freedom* (Oxford: Oxford University Press, 1999)

Silberschmidt, Margrethe, *'Women Forget That Men Are the Masters': Gender Antagonism and Socio-Economic Change in Kisii District, Kenya* (Uppsala: Nordiska Afrikainstitutet, 1999)

Smith, Eustace, *On the Wasting Diseases of Infants and Children* (London: J. & A. Churchill, 1868)

Smith, Hugh, *Letters to Married Women* (London: C. and G. Kearsly, 1767)

Smith, Lisa C., and Lawrence J. Haddad, *Explaining Child Malnutrition in Developing Countries: A Cross-Country Analysis*, FCND Discussion Paper (Washington, D.C.: International Food Policy Research Institute, 1999)

Songsore, Jacob, *Regional Development in Ghana: The Theory and the Reality* (Accra: Woeli, 2003)

Stein, Zena, *Famine and Human Development: The Dutch Hunger Winter of 1944-1945* (Oxford: Oxford University Press, 1975)

de Swaan, Abram, *In Care of the State: Health Care, Education and Welfare in Europe and the USA in the Modern Era* (Cambridge: Polity, 1988)

Tauxier, Louis, *Le Noir Du Soudan: Pays Mossi et Gourounsi, Documents et Analyses* (Paris: Emile Larose, 1912)

Thomson, B., *The Fijians: A Study of the Decay of Custom* (London: William Heinemann, 1908)

Tiffen, Mary, Michael Mortimore, and Francis Gichuki, *More People, Less Erosion: Environmental Recovery in Kenya* (Chichester: Wiley, 1994)

Tilley, Helen, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago: University of Chicago Press, 2011)

Townsend, Peter, *Poverty in the United Kingdom: A Survey of Household Resources and Standards of Living* (Berkeley: University of California Press, 1979)

Trowell, H.C., J.N.P. Davies, and R.F.A. Dean, *Kwashiorkor* (London: Edward Arnold, 1954)

UNICEF, and Ghana Government, *Children and Women of Ghana: A Situation Analysis 1989-90.* (Accra: UNICEF, 1990)

United Nations, *Report of the World Food Conference, Rome, 5-16th November 1974* (New York: United Nations Press, 1975)

Valenze, Deborah M., *Milk: A Local and Global History* (New Haven: Yale University Press, 2011)

Vansina, Jan, *Paths in the Rainforests: Toward a History of Political Tradition in Equatorial Africa* (London: James Currey, 1990)

Vaughan, Megan, *Curing Their Ills: Colonial Power and African Illness* (Stanford, CA: Stanford University Press, 1991)

———, *The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi* (Cambridge: Cambridge University Press, 1987)

Warren, Dennis M., *The Techiman-Bono of Ghana: An Ethnography of an Akan Society* (Dubuque, Iowa: Kendall/Hunt Pub. Co., 1975)

Waterlow, J.C., ed., *Protein Malnutrition: Proceedings of a Conference in Jamaica, 1953* (Cambridge: Cambridge University Press for the FAO, WHO and Josiah Macy Jr. Foundation, 1955)

Watts, Michael, *Silent Violence: Food, Famine & Peasantry in Northern Nigeria* (Berkeley: University of California Press, 1983)

Wilks, Ivor, *Asante in the Nineteenth Century: The Structure and Evolution of a Political Order* (Cambridge: Cambridge University Press, 1975)

Wilks, Ivor, Nehemia Levtzion, and Bruce M. Haight, *Chronicles from Gonja: A Tradition of West African Muslim Historiography* (Cambridge: Cambridge University Press, 1986)

Williams, Cicely D., *'Milk and Murder': Reprint of a Speech given to the Singapore Rotary Club, 1939* (Penang, Malaysia: International Organization of Consumers Unions, 1986)

Winterbottom, T.M., *An account of the native Africans in the neighbourhood of Sierra Leone; to which is added an account of the present state of medicine among them.* (London: C. Whittingham, 1803)

World Bank, *Ghana: Population, Health and Nutrition* (Washington, D.C.: World Bank, 1989), pp. 1–105

———, *Poverty and Hunger: Issues and Options for Food Security in Developing Countries*. (Washington, D.C.: World Bank, 1986)

———, *The Social Dimensions of Adjustment in Africa: A Policy Agenda* (Washington, D.C.: World Bank, 31 March 1990), pp. 1–34

World Health Organization, *Management of Severe Malnutrition: A Manual for Physicians and Other Senior Health Workers*. (Geneva: World Health Organization, 1999)

———, *WHO Child Growth Standards: Methods and Development* (Geneva: World Health Organization, 2006)

Wrigley, C.C., *Crops and Wealth in Uganda: A Short Agrarian History* (Kampala: East African Institute of Social Research, 1959)

Wylie, Diana, *Starving on a Full Stomach: Hunger and the Triumph of Cultural Racism in Modern South Africa*, Reconsiderations in Southern African History (Charlottesville: University Press of Virginia, 2001)

Articles and Book Chapters

Abdul-Korah, Gariba B., '"Ka Biɛ Ba Yor": Labor Migration among the Dagaaba of the Upper West Region of Ghana, 1936–1957', *Nordic Journal of African Studies*, 17 (2008), 1–19

———, '"Now If You Have Only Sons You Are Dead": Migration, Gender, and Family Economy in Twentieth Century Northwestern Ghana', *Journal of Asian and African Studies*, 46 (2011), 390–403

Abt, I.A., 'Injuries Produced by Starch', *Journal of the American Medical Association*, 61 (1913), 1275–77

Abu, Katherine, 'The Separateness of Spouses: Conjugal Resources in an Ashanti Town', in *Female and Male in West Africa*, ed. by Christine Oppong (London: George Allen & Unwin, 1983), pp. 156–68

Addai, Isaac, 'Determinants of Use of Maternal-Child Health Services in Rural Ghana', *Journal of Biosocial Science*, 32 (2000), 1–15

Agyei-Mensah, Samuel, and Ama de-Graft Aikins, 'Epidemiological Transition and the Double Burden of Disease in Accra, Ghana', *Journal of Urban Health*, 87 (2010), 879–97

Akurang-Parry, Kwabena O., '"The Loads Are Heavier than Usual": Forced Labor by Women and Children in the Central Province, Gold Coast (Colonial Ghana), c.1900-1940', *African Economic History*, 2002, 31–51

Akyeampong, Emmanuel, 'Sexuality and Prostitution among the Akan of the Gold Coast C. 1650-1950', *Past & Present*, 1997, 144–73

———, '"Wo Pe Tam Won Pe Ba" ('You like Cloth but You Don't Want Children') Urbanization, Individualism & Gender Relations in Colonial Ghana, c.1900-39', in *Africa's Urban Past*, ed. by David M. Anderson and Richard Rathbone (Oxford: James Currey, 2000), pp. 222–34

Akyeampong, Emmanuel, and Samuel Agyei-Mensah, 'Itinerant Gold Mines? Mobility, Sexuality and the Spread of Gonorrhoea and Syphilis in Twentieth Century Ghana', in *Sex and Gender in an Era of AIDS: Ghana at the Turn of the Millennium*,

ed. by Christine Oppong, M. Yaa P.A. Oppong, and Irene K. Odotei (Legon: Sub-Saharan Publishers, 2006), pp. 41–58

Akyeampong, Emmanuel, and Pashington Obeng, 'Spirituality, Gender, and Power in Asante History', *The International Journal of African Historical Studies*, 28 (1995), 481–508

Alence, Rod, 'The 1937-1938 Gold Coast Cocoa Crisis: The Political Economy of Commercial Stalemate', *African Economic History*, 1990, 77–104

Allman, Jean, 'Fathering, Mothering and Making Sense of Ntamoba: Reflections on the Economy of Child-Rearing in Colonial Asante', *Africa*, 67 (1997), 296–321

———, 'Making Mothers: Missionaries, Medical Officers and Women's Work in Colonial Asante, 1924-1945', *History Workshop*, 38 (1994), 23–47

———, 'Of "Spinsters", "Concubines" and "Wicked Women": Reflections on Gender and Social Change in Colonial Asante', *Gender & History*, 3 (1991), 176–89

———, 'Rounding up Spinsters: Gender Chaos and Unmarried Women in Colonial Asante', *Journal of African History*, 37 (1996), 195–214

Allman, Jean Marie, Susan Geiger, and Nakanyike Musisi, 'Women in African Colonial Histories: An Introduction', in *Women in African Colonial Histories*, ed. by Jean Marie Allman, Susan Geiger, and Nakanyike Musisi (Bloomington: Indiana University Press, 2002), pp. 1–18

Allotey, P., and D. Reidpath, 'Establishing the Causes of Childhood Mortality in Ghana: The "Spirit Child"', *Social Science & Medicine*, 52 (2001), 1007–12

Amin, Samir, 'Introduction', in *Modern Migrations in Western Africa*, ed. by Samir Amin (Oxford: Oxford University Press, 1974), pp. 65–151

———, 'Underdevelopment and Dependence in Black Africa-Origins and Contemporary Forms', *The Journal of Modern African Studies*, 10 (1972), 503–24

Amugsi, Dickson A., Maurice B. Mittelmark, and Anna Lartey, 'An Analysis of Socio-Demographic Patterns in Child Malnutrition Trends Using Ghana Demographic and Health Survey Data in the Period 1993–2008', *BMC Public Health*, 13 (2013), 960

Annim, Samuel Kobina, Kofi Awusabo-Asare, and Joshua Amo-Adjei, 'Household Nucleation, Dependency and Child Health Outcomes in Ghana', *Journal of Biosocial Science*, 47 (2015), 565–92

Anyinam, C.A., 'Spatial Implications of Structural Adjustment Programmes in Ghana', *Tijdschrift Voor Economische En Sociale Geografie*, 85 (1994), 446–60

Ardayfio-Schandorf, Elizabeth, 'Household Headship and Women's Earning in Ghana', in *Family and Development in Ghana*, ed. by Elizabeth Ardayfio-Schandorf (Legon: Ghana Universities Press, 1994), pp. 30–47

Arhin, Kwame, 'Monetisation and the Asante State', in *Money Matters: Instability, Values and Social Payments in the Modern History of West Africa Communities*, ed. by Jane I. Guyer (Portsmouth, NH: Heinemann, 1995), pp. 188–201

———, 'Succession and Gold Mining at Mansu Nkwanta', *Research Review, University of Ghana*, 6 (1970), 101–9

———, 'The Financing of the Ashanti Expansion (1700-1820)', *Africa*, 37 (1967), 283–91

———, 'The Structure of Greater Ashanti (1700–1824)', *Journal of African History*, 8 (1967), 65–85

Armah, Frederick A., Justice O. Odoi, Genesis T. Yengoh, Samuel Obiri, David O. Yawson, and Ernest K. A. Afrifa, 'Food Security and Climate Change in Drought-Sensitive Savanna Zones of Ghana', *Mitigation and Adaptation Strategies for Global Change*, 16 (2010), 291–306

Arnold, David, 'The "Discovery" of Malnutrition and Diet in Colonial India', *The Indian Economic & Social History Review*, 31 (1994), 1–26

Aryeetey, Ernest, and Andrew McKay, 'Growth with Poverty Reduction, but Increased Spatial Inequality: Ghana over the 1990', in *Determinants of Pro Poor Growth: Analytical Issues and Findings from Country Cases*, ed. by Michael Grimm, Stephen Klasen, and Andrew McKay (Basingstoke: Palgrave Macmillan, 2007), pp. 57–80

Ashworth, Ann, 'Efficacy and Effectiveness of Community-Based Treatment of Severe Malnutrition', *Food and Nutrition Bulletin*, 27 (2006), S24–48

Asibey, E.O.A., 'Utilisation of Wildlife in Ghana', *The Ghana Farmer*, 9 (1965), 91–93

Asiedu, Alex B., and Samuel Agyei-Mensah, 'Traders on the Run: Activities of Street Vendors in the Accra Metropolitan Area, Ghana', *Norwegian Journal of Geography*, 62 (2008), 191–202

Atkinson, A. B., 'Bringing Income Distribution in From the Cold', *The Economic Journal*, 107 (1997), 297–321

Austin, Gareth, 'Between Abolition and Jihad: The Asante Response to the Ending of the Atlantic Slave Trade, 1807-1896', in *From Slave Trade to 'Legitimate' Commerce: The Commercial Transition in Nineteenth-Century West Africa*, ed. by R. Law (Cambridge: Cambridge University Press, 1995), pp. 93–118

———, 'Human Pawning in Asante 1800-1950: Markets and Coercion, Gender and Cocoa', in *Pawnship, Slavery and Colonialism in Africa*, ed. by Paul E. Lovejoy and Toyin Falola (Trenton, NJ: Africa World Press, 2003), pp. 187–224

———, 'National Poverty and the "vampire State" in Ghana: A Review Article', *Journal of International Development*, 8 (1996), 553–73

———, '"No Elders Were Present": Commoners and Private Ownership in Asante, 1807-96', *The Journal of African History*, 37 (1996), 1–30

———, 'The "reversal of Fortune" Thesis and the Compression of History: Perspectives from African and Comparative Economic History', *Journal of International Development*, 20 (2008), 996–1027

———, 'African Economic Development and Colonial Legacies', *International Development Policy*, 1 (2010), 11–32

———, 'Vent for Surplus or Productivity Breakthrough? The Ghanaian Cocoa Take-Off, C. 1890–1936', *The Economic History Review*, 67 (2014), 1035–64

Austin, Gareth, Joerg Baten, and Bas Van Leeuwen, 'The Biological Standard of Living in Early Nineteenth-Century West Africa: New Anthropometric Evidence for Northern Ghana and Burkina Faso', *The Economic History Review*, 65 (2012), 1280–1302

Austin, Gareth, and Stephen Broadberry, 'Introduction: The Renaissance of African Economic History', *The Economic History Review*, 67 (2014), 893–906

Autret, M., 'Protein Malnutrition and the FAO Viewpoint', in *Progress in Meeting Protein Needs of Infants and Pre-School Children: Proceedings of an International Conference Held in Washington, D.C., August 21-24, 1960. Under the Auspices of*

the Committee on Protein Malnutrition, Food and Nutrition Board, and the Nutrition Study Section, National Institutes of Health, ed. by National Academy of Sciences (Washington, D.C.: National Academy of Sciences, 1961), pp. 537–43

Ayee, Joseph R.A., 'Civil Service Reform in Ghana: A Case Study of Contemporary Reform Problems in Africa', *African Journal of Political Science*, 6 (2004), 1–41

Ball, Helen L., and Catherine M. Hill, 'Reevaluating "Twin Infanticide"', *Current Anthropology*, 37 (1996), 856–63

Baten, Joerg, and Matthias Blum, 'Growing Tall but Unequal: New Findings and New Background Evidence on Anthropometric Welfare in 156 Countries, 1810–1989', *Economic History of Developing Regions*, 27 (2012), S66–85

Behrends, Andrea, '"Pogminga": The "Proper Dagara Woman": An Encounter between Christian Thought and Dagara Concepts', *Journal of Religion in Africa*, 32 (2002), 231–53

Beinart, William, 'Soil Erosion, Conservationism and Ideas about Development: A Southern African Exploration, 1900-1960', *Journal of Southern African Studies*, 11 (1984), 52–83

Benería, Lourdes, 'Toward a Greater Integration of Gender in Economics', *World Development*, 23 (1995), 1839–50

Bennett, F.J., and J.P. Stanfield, 'The Clinical Conditions and Aetiology of Malnutrition in Uganda', in *Nutrition and Food in an African Economy*, ed. by V.F. Amann, D.G.R. Belshaw, and J.P. Stanfield (Kampala: Department of Rural Economy, Makerere Library, 1972), pp. 1–9

———, 'The Pattern of Malnutrition in Uganda', *Journal of Tropical Pediatrics*, 17 (1971), S5–10

Berg, A., 'Sliding toward Nutrition Malpractice: Time to Reconsider and Redeploy', *The American Journal of Clinical Nutrition*, 57 (1993), 3–7

Bierlich, B., 'Injections and the Fear of Death: An Essay on the Limits of Biomedicine among the Dagomba of Northern Ghana', *Social Science & Medicine (1982)*, 50 (2000), 703–13

Bigland, A.D., 'Oedema as a Symptom in So-Called Food Deficiency Diseases', *The Lancet*, 195 (1920), 243–47

Birdsall, Nancy, and Juan Luis Londono, 'Asset Inequality Matters: An Assessment of the World Bank's Approach to Poverty Reduction', *The American Economic Review*, 87 (1997), 32–37

Black, Robert E., Lindsay H. Allen, Zulfiqar A. Bhutta, Laura E. Caulfield, Mercedes de Onis, Majid Ezzati, and others, 'Maternal and Child Undernutrition: Global and Regional Exposures and Health Consequences', *The Lancet*, 371 (2008), 243–60

Black, Robert E., Cesar G. Victora, Susan P. Walker, Zulfiqar A. Bhutta, Parul Christian, Mercedes de Onis, and others, 'Maternal and Child Undernutrition and Overweight in Low-Income and Middle-Income Countries', *The Lancet*, 382 (2013), 427–51

Bleek, Wolf, 'Did the Akan Resort to Abortion in Pre-Colonial Ghana? Some Conjectures', *Africa*, 60 (1990), 121–31

Bloch, C.E., 'Diseases of Infants Due to Prolonged Feeding With Excess of Carbohydrates', *British Medical Journal*, 1 (1921), 293–95

Boadi, Kwasi Owusu, and Markku Kuitunen, 'Environment, Wealth, Inequality and the Burden of Disease in the Accra Metropolitan Area, Ghana', *International Journal of Environmental Health Research*, 15 (2005), 193–206

Bongaarts, John, 'The KAP-Gap and the Unmet Need for Contraception', *Population and Development Review*, 17 (1991), 293–313

Breschi, Marco, and Massimo Livi Bacci, 'Month of Birth as a Factor in Children's Survival', in *Infant and Child Mortality in the Past*, ed. by Alain Bideau, Bertrand Desjardins, and Hećtor Peŕez Brignoli (Oxford: Oxford University Press, 1997), pp. 157–73

Brewster, D. R., and B. M. Greenwood, 'Seasonal Variation of Paediatric Diseases in The Gambia, West Africa', *Annals of Tropical Paediatrics*, 13 (1993), 133–46

Briend, André, Radandi Lacsala, Claudine Prudhon, Béatrice Mounier, Yvonne Grellety, and Michael HN Golden, 'Ready-to-Use Therapeutic Food for Treatment of Marasmus', *The Lancet*, 353 (1999), 1767–68

Brown, James W., 'Increased Intercommunication and Epidemic Disease in Early Colonial Ashanti', in *Disease in African History: An Introductory Survey and Case Studies*, ed. by K. David Patterson and Gerald W. Hartwig (Durham, N.C.: Duke University Press, 1978), pp. 180–207

Brown, Marjorie, 'Nutrition in the Gold Coast: A Summary of information relating to the present position of nutrition in the Gold Coast', in *Conférence interafricaine sur l'alimentation et la nutrition. Dschang, Cameroun, 3-9 Octobre 1949* (Paris: La Documentation Française, 1949), pp. 96–103

Brydon, Lynne, 'Ghanaian Responses to the Nigerian Expulsions of 1983', *African Affairs*, 84 (1985), 561–85

———, 'Rice, Yams and Chiefs in Avatime: Speculations on the Development of a Social Order', *Africa*, 51 (1981), 659–77

Burnet, E., and W.R. Aykroyd, 'Nutrition and Public Health', *League of Nations: Quarterly Bulletin of the Health Organisation*, 4 (1935), 323–474

Caldwell, John C., 'Education as a Factor in Mortality Decline An Examination of Nigerian Data', *Population Studies*, 33 (1979), 395–413

———, 'Fertility Attitudes in Three Economically Contrasting Rural Regions of Ghana', *Economic Development and Cultural Change*, 15 (1967), 217–38

———, 'Routes to Low Mortality in Poor Countries', *Population and Development Review*, 12 (1986), 171–220

Cammack, Paul, 'Making the Poor Work for Globalisation?', *New Political Economy*, 6 (2001), 397–408

———, 'What the World Bank Means by Poverty Reduction, and Why It Matters', *New Political Economy*, 9 (2004), 189–211

Carpenter, Kenneth J., 'A Short History of Nutritional Science: Part 1 (1785–1885)', *The Journal of Nutrition*, 133 (2003), 638–45

———, 'A Short History of Nutritional Science: Part 2 (1885–1912)', *The Journal of Nutrition*, 133 (2003), 975–84

———, 'A Short History of Nutritional Science: Part 3 (1912–1944)', *The Journal of Nutrition*, 133 (2003), 3023–32

———, 'A Short History of Nutritional Science: Part 4 (1945–1985)', *The Journal of Nutrition*, 133 (2003), 3331–42

Ceesay, S.M., A.M. Prentice, T.J. Cole, F. Foord, L.T. Weaver, E.M. Poskitt, and others, 'Effects on Birth Weight and Perinatal Mortality of Maternal Dietary Supplements in Rural Gambia: 5 Year Randomised Controlled Trial', *BMJ*, 315 (1997), 786–90

Chalfin, Brenda, 'Risky Business: Economic Uncertainty, Market Reforms and Female Livelihoods in Northeast Ghana', *Development and Change*, 31 (2000), 987–1008

Christaller, J.G., 'Recent Explorations in the Basin of the Volta (Gold Coast) by Missionaries of the Basel Missionary Society', *Proceedings of the Royal Geographical Society and Monthly Record of Geography*, New Monthly Series, 8 (1886), 246–56

Ciliberto, Heather, Michael Ciliberto, André Briend, Per Ashorn, Dennis Bier, and Mark Manary, 'Antioxidant Supplementation for the Prevention of Kwashiorkor in Malawian Children: Randomised, Double Blind, Placebo Controlled Trial', *BMJ*, 330 (2005), 1109–11

Clark, Gracia, 'Food Traders and Food Security in Ghana', in *The Political Economy of African Famine*, ed. by Richard Erskine Downs, Donna O. Kerner, and Stephen P. Reyna (London: Gordon and Breach, 1991), pp. 227–56

———, 'From Fasting to Fast Food in Kumasi, Ghana', in *Food Consumption in Global Perspective: Essays in the Anthropology of Food in Honour of Jack Goody*, ed. by Jakob Klein and Anne Murcott (Basingstoke: Palgrave Macmillan, 2014), pp. 45–64

———, 'Mothering, Work, and Gender in Urban Asante Ideology and Practice', *American Anthropologist*, 101 (1999), 717–29

Cleveland, David A., 'Migration in West Africa: A Savanna Village Perspective', *Africa*, 61 (1991), 222–46

Codjoe, Samuel Nii Ardey, and Fred M. Dzanku, 'Long-Term Determinants of Deforestation in Ghana: The Role of Structural Adjustment Policies', *African Development Review*, 21 (2009), 558–88

Colbourne, M.J., G.M. Edington, M.H. Hughes, and A. Ward-Brew, 'A Medical Survey in a Gold Coast Village', *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 44 (1950), 271–90

Colecraft, Esi K, Grace S Marquis, Alfred A Bartolucci, LeaVonne Pulley, W Bruce Owusu, and H Michael Maetz, 'A Longitudinal Assessment of the Diet and Growth of Malnourished Children Participating in Nutrition Rehabilitation Centres in Accra, Ghana', *Public Health Nutrition*, 7 (2004), 487–94

Collins, Steve, Nicky Dent, Paul Binns, Paluku Bahwere, Kate Sadler, and Alistair Hallam, 'Management of Severe Acute Malnutrition in Children', *The Lancet*, 368 (2006), 1992–2000

Collis, W.R.F., J. Dema, and A. Omololu, 'On the ecology of child health and nutrition in Nigerian villages, parts I and II', *Tropical and Geographical Medicine*, 14 (1962), 140–63, 201–29

Comaroff, Jean, and John L. Comaroff, 'Home-Made Hegemony: Modernity, Domesticity, and Colonialism in South Africa', in *African Encounters with Domesticity*, ed. by Karen Hansen (New Brunswick, N.J.: Rutgers University Press, 1992), pp. 37–74

———, 'Millennial Capitalism: First Thoughts on a Second Coming', *Public Culture*, 12 (2000), 291–343

———, 'Second Comings: Neo-Protestant Ethics and Millennial Capitalism in Africa, and Elsewhere', in *2000 Years and beyond: Faith, Identity, and the 'Common Era'*, ed. by Paul Gifford (London: Routledge, 2003), pp. 291–343

Côté, Anne-Marie, François Sobela, Agnes Dzokoto, Khonde Nzambi, Comfort Asamoah-Adu, Annie-Claude Labbé, and others, 'Transactional Sex Is the Driving Force in the Dynamics of HIV in Accra, Ghana', *AIDS*, 18 (2004), 917–25

Coulombe, Harold, and Andrew McKay, 'Growth with Selective Poverty Reduction - Ghana in the 1990s', in *Growth and Poverty Reduction: Case Studies from West Africa*, ed. by Quentin Wodon (Washington, D.C.: World Bank Publications, 2007), pp. 9–94

Curtin, Philip D., 'Nutrition in African History', in *Hunger and History: The Impact of Changing Food Production and Consumption Patterns on Society*, ed. by Robert I. Rotberg and Theodore K. Rabb (Cambridge: Cambridge University Press, 1985), pp. 173–84

Daloz, Jean-Pascal, '"Big Men" in Sub-Saharan Africa: How Elites Accumulate Positions and Resources', *Comparative Sociology*, 2 (2003), 271–85

Davey, P.L.H., 'Some Puzzling Spending Habits in Ghana', *Economic Bulletin of Ghana*, 7 (1963), 17–28

Davin, Anna, 'Imperialism and Motherhood', *History Workshop Journal*, 5 (1978), 9–65

Dei, George J.S., 'A Forest beyond the Trees: Tree Cutting in Rural Ghana', *Human Ecology*, 20 (1992), 57–88

———, 'A Ghanaian Town Revisited: Changes and Continuities in Local Adaptive Strategies', *African Affairs*, 91 (1992), 95–120

———, 'The Renewal of a Ghanaian Rural Economy', *Canadian Journal of African Studies*, 26 (1992), 24–53

Denham, Aaron R., Philip B. Adongo, Nicole Freydberg, and Abraham Hodgson, 'Chasing Spirits: Clarifying the Spirit Child Phenomenon and Infanticide in Northern Ghana', *Social Science & Medicine*, 71 (2010), 608–15

Destombes, Jerôme, 'From Long-Term Patterns of Seasonal Hunger to Changing Experiences of Everyday Poverty: Northeastern Ghana, C. 1930-2000', *Journal of African History*, 47 (2006), 181–205

De Waal, Alex, 'Famine Mortality: A Case Study of Darfur, Sudan 1984–5', *Population Studies*, 43 (1989), 5–24

Doyle, Shane, 'Population Decline and Delayed Recovery in Bunyoro, 1860-1960', *Journal of African History*, 41 (2000), 429–58

Drewnowski, A., 'Taste Preferences and Food Intake', *Annual Review of Nutrition*, 17 (1997), 237–53

Drucker-Brown, Susan, 'Mamprusi Witchcraft, Subversion and Changing Gender Relations', *Africa*, 63 (1993), 531–49

Dumett, Raymond, 'Disease and Mortality among Gold Miners of Ghana: Colonial Government and Mining Company Attitudes and Policies, 1900–1938', *Social Science & Medicine*, 37 (1993), 213–32

Du, Shufa, Tom A Mroz, Fengying Zhai, and Barry M Popkin, 'Rapid Income Growth Adversely Affects Diet Quality in China—particularly for the Poor!', *Social Science & Medicine*, 59 (2004), 1505–15

England, Paula, 'The Separative Self: Androcentric Bias in Neoclassical Assumptions', in *Beyond Economic Man: Feminist Theory and Economics*, ed. by Marianne A. Ferber and Julie A. Nelson (Chicago: University of Chicago Press, 1993), pp. 37–53

Engle, Patricia L., 'The Effect of Maternal Employment on Children's Welfare in Rural Guatemala', *New Directions for Child and Adolescent Development*, 20 (1983), 57–75

Esrey, S.A., J.P. Habicht, M.C. Latham, D.G. Sisler, and G. Casella, 'Drinking Water Source, Diarrheal Morbidity, and Child Growth in Villages with Both Traditional and Improved Water Supplies in Rural Lesotho, Southern Africa.', *American Journal of Public Health*, 78 (1988), 1451–55

Evenson, R.E., and D. Gollin, 'Assessing the Impact of the Green Revolution, 1960 to 2000', *Science*, 300 (2003), 758–62

Feierman, Steven, 'Struggles for Control: The Social Roots of Health and Healing in Modern Africa', *African Studies Review*, 28 (1985), 73–147

Fenn, Bridget, Saul S Morris, and Chris Frost, 'Do Childhood Growth Indicators in Developing Countries Cluster? Implications for Intervention Strategies', *Public Health Nutrition*, 7 (2004), 829–34

Fiawoo, D.K., 'Physical Growth and the School Environment: A West African Example', in *Physiological and Morphological Adaptation and Evolution*, ed. by William A. Stini (The Hague: Mouton, 1979), pp. 301–14

Fine, Ben, and Kwabia Boateng, 'Labour and Employment under Structural Adjustment', in *Economic Reforms in Ghana: The Miracle and the Mirage*, ed. by Ernest Aryeetey, Jane Harrigan, and Machiko Nissanke (Oxford: James Currey, 2000), pp. 227–45

Fortes, Meyer, 'A Demographic Field Study in Ashanti', in *Culture and Human Fertility: A Study of the Relation of Cultural Conditions to Fertility in Non-Industrial and Transitional Societies*, ed. by Lorimer Frank (Paris: UNESCO, 1954), pp. 253–340

———, 'Kinship and Marriage among the Ashanti', in *African Systems of Kinship and Marriage*, ed. by A.R. Radcliffe-Brown and D. Forde (Oxford: Oxford University Press, 1952), pp. 252–84

———, 'The Political System of the Tallensi of the Northern Territories of the Gold Coast', in *African Political Systems*, ed. by Meyer Fortes and Edward Evans Evans-Pritchard (Oxford: Oxford University Press, 1940), pp. 239–71

Fortes, M., and S.L. Fortes, 'Food in the Domestic Economy of the Tallensi', *Africa*, 9 (1936), 237–76

Frankema, Ewout, 'The Colonial Roots of Land Inequality: Geography, Factor Endowments, or Institutions?', *The Economic History Review*, 63 (2010), 418–51

Frisch, R. A., Lafayette B. Mendel, and John P. Peters, 'The Production of Edema and Serum Protein Deficiency in White Rats by Low Protein Diets', *Journal of Biological Chemistry*, 84 (1929), 167–77

Frongillo, E.A., M. de Onis, and K.M. Hanson, 'Socioeconomic and Demographic Factors Are Associated with Worldwide Patterns of Stunting and Wasting of Children', *The Journal of Nutrition*, 127 (1997), 2302–9

Gaisie, S.K., 'Levels and Patterns of Infant and Child Mortality in Ghana', *Demography*, 12 (1975), 21–34

Gary, Ian, 'Confrontation, Co-operation or Co-optation: NGOs and the Ghanaian State during Structural Adjustment', *Review of African Political Economy*, 23 (1996), 149–68

Gayi, Samuel K., 'Adjusting to the Social Costs of Adjustment in Ghana: Problems and Prospects', *The European Journal of Development Research*, 7 (1995), 77–100

van der Geest, Kees, 'North-South Migration in Ghana: What Role for the Environment?', *International Migration*, 49 (2011), 69–94

Gifford, Paul, 'Ghana's Charismatic Churches', *Journal of Religion in Africa*, 24 (1994), 241–65

Gillespie, Tom, 'Accumulation by Urban Dispossession: Struggles over Urban Space in Accra, Ghana', *Transactions of the Institute of British Geographers*, 41 (2016), 66–77

Girdner, Janet, Victor Olorunsola, Myrna Froning, and Emmanuel Hansen, 'Ghana's Agricultural Food Policy: Operation Feed Yourself', *Food Policy*, 5 (1980), 14–25

Glewwe, Paul, and Jacques van der Gaag, 'Identifying the Poor in Developing Countries: Do Different Definitions Matter?', *World Development*, 18 (1990), 803–14

Gluckman, Max, 'The Lozi of Barotseland in North-Western Rhodesia', in *Seven Tribes of British Central Africa*, ed. by Colson Elizabeth and Max Gluckman (Manchester: Manchester University Press, 1951), pp. 1–93

Golden, M.H., 'Oedematous Malnutrition', *British Medical Bulletin*, 54 (1998), 433–44

———, 'Protein Deficiency, Energy Deficiency, and the Oedema of Malnutrition', *The Lancet*, 1 (1982), 1261–65

———, 'The Development of Concepts of Malnutrition', *The Journal of Nutrition*, 132 (2002), 2117S – 2122S

Goldsworthy, David, 'Ghana's Second Republic: A Post-Mortem', *African Affairs*, 72 (1973), 8–25

Goody, Esther, 'Legitimate and Illegitimate Aggression in a West African State', in *Witchcraft Confessions and Accusations*, ed. by Mary Douglas (London: Routledge, 2004), pp. 207–45

Goody, Jack, 'Rice-burning and the Green Revolution in Northern Ghana', *The Journal of Development Studies*, 16 (1980), 136–55

Grant, Faye Woodard, 'Nutrition and Health of Gold Coast Children. II. Care and Physical Status of Children', *Journal of the American Dietetic Association*, 31 (1955), 694–702

Granzberg, Gary, 'Twin Infanticide - A Cross-Cultural Test of a Materialistic Explanation', *Ethos*, 1 (1973), 405–12

Grier, Beverly, 'Pawns, Porters, and Petty Traders: Women in the Transition to Cash Crop Agriculture in Colonial Ghana', *Signs*, 17 (1992), 304–28

Grischow, Jeff D., 'Corruptions of Development in the Countryside of the Northern Territories of the Gold Coast, 1927–57', *The Journal of Peasant Studies*, 26 (1998), 139–58

Grischow, Jeff D., and Holger Weiss, 'Colonial Famine Relief and Development Policies: Towards an Environmental History of Northern Ghana', *Global Environment*, 2012, 50–97

Guo, Guang, and Laurence M. Grummer-Strawn, 'Child Mortality Among Twins in Less Developed Countries', *Population Studies*, 47 (1993), 495–510

Guzmán, Juan Carlos, Andrew R. Morrison, and Mirja Sjöblom, 'The Impact of Remittances and Gender on Household Expenditure Patterns: Evidence from Ghana', in *The International Migration of Women*, ed. by Andrew R. Morrison, Maurice Schiff, and Mirja Sjöblom (Washington, D.C.: World Bank, 2008), pp. 125–52

Hardin, Garrett, 'The Tragedy of the Commons', *Science*, 162 (1968), 1243–48

Hart, Keith, 'Informal Income Opportunities and Urban Employment in Ghana', *The Journal of Modern African Studies*, 11 (1973), 61–89

———, 'Migrations and the Opportunity Structure: A Ghanaian Case Study', in *Modern Migrations in Western Africa*, ed. by Samir Amin (Oxford: Oxford University Press, 1974), pp. 321–39

———, 'The Economic Basis of Tallensi Social History in the Early Twentieth Century', in *Research in Economic Anthropology: An Annual Compilation of Research*, ed. by George Dalton (London: JAI Press, 1978), pp. 185–216

Harvey, David, 'The "New" Imperialism: Accumulation by Dispossession', *Socialist Register*, 40 (2009), 63–87

Haukioja, Erkki, Risto Lemmetyinen, and Mirja Pikkola, 'Why Are Twins so Rare in Homo Sapiens?', *The American Naturalist*, 133 (1989), 572–77

Hawkins, Sean, '"The Woman in Question": Marriage and Identity in the Colonial Courts of Northern Ghana, 1907-1954', in *Women in African Colonial Histories*, ed. by Jean Allman, Susan Geiger, and Nakanyike Musisi (Bloomington: Indiana University Press, 2002), pp. 116–43

———, 'To Pray or Not To Pray: Politics, Medicine, and Conversion among the LoDagaa of Northern Ghana, 1929-1939', *Canadian Journal of African Studies*, 31 (1997), 50–85

Hearn, Julie, 'The "Uses and Abuses" of Civil Society in Africa', *Review of African Political Economy*, 28 (2001), 43–53

Henry, C.J.K., P.A. Donachie, and J.P.W. Rivers, 'The Winged Bean: Will the Wonder Crop Be Another Flop?', *Ecology of Food and Nutrition*, 16 (1985), 331–38

Hill, Polly, 'Some Puzzling Spending Habits in Ghana', *Economic Bulletin of Ghana*, 1 (1957), 3–11

———, 'Women Cocoa Farmers', *Economic Bulletin of Ghana*, 2 (1958), 70–76

Hilson, Gavin, 'Child Labour in African Artisanal Mining Communities: Experiences from Northern Ghana', *Development and Change*, 41 (2010), 445–73

Hilson, Gavin, and Clive Potter, 'Structural Adjustment and Subsistence Industry: Artisanal Gold Mining in Ghana', *Development and Change*, 36 (2005), 103–31

Hong, Rathavuth, 'Effect of Economic Inequality on Chronic Childhood Undernutrition in Ghana', *Public Health Nutrition*, 10 (2007), 371–78

Howe, Paul, and Stephen Devereux, 'Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine', *Disasters*, 28 (2004), 353–72

Hughes, M.H., and P.F. Daly, 'Onchocerciasis in the Southern Gold Coast', *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 45 (1951), 243–52

Hunter, John M., 'River Blindness in Nangodi, Northern Ghana: A Hypothesis of Cyclical Advance and Retreat', *Geographical Review*, 56 (1966), 398–416

———, 'Seasonal Hunger in a Part of the West African Savanna: A Survey of Bodyweights in Nangodi, North-East Ghana', *Transactions of the Institute of British Geographers*, 41 (1967), 167–85

Hunt, Nancy Rose, '"Le Bebe En Brousse": European Women, African Birth Spacing and Colonial Intervention in Breast Feeding in the Belgian Congo', *The International Journal of African Historical Studies*, 21 (1988), 401–32

Hutchful, Eboe, '"Smoke and Mirrors": The World Bank's Social Dimensions of Adjustment (SDA) Programme', *Review of African Political Economy*, 21 (1994), 569–84

———, 'Why Regimes Adjust: The World Bank Ponders Its "Star Pupil"', *Canadian Journal of African Studies*, 29 (1995), 303–17

Ittmann, Karl, '"Where Nature Dominates Man": Demographic Ideas and Policy in British Colonial Africa, 1890–1970', in *The Demographics of Empire*, ed. by Karl Ittmann, Dennis D. Cordell, and Gregory H. Maddox (Athens, OH: Ohio University Press, 2010), pp. 59–88

Jelliffe, D.B., 'Commerciogenic Malnutrition?', *Nutrition Reviews*, 30 (1972), 199–205

———, 'Protein-Calorie Malnutrition in Tropical Preschool Children: A Review of Recent Knowledge', *The Journal of Pediatrics*, 54 (1959), 227–56

———, 'Social Culture and Nutrition: Cultural Blocks and Protein Malnutrition in Early Childhood in Rural West Bengal', *Pediatrics*, 20 (1957), 128–38

Jelliffe, D.B., and J.P. Stanfield, 'Protein Deficiencies and Calorie Deficiencies', *The Lancet*, 288 (1966), 207–8

Jellinek, E.H., 'The Russells of Edinburgh: A Medical Dynasty', *Proceedings of the Royal College of Physicians of Edinburgh*, 31 (2001), 342–51

Jerven, Morten, 'African Growth Recurring: An Economic History Perspective on African Growth Episodes, 1690–2010', *Economic History of Developing Regions*, 25 (2010), 127–54

Kasei, Raymond, Bernd Diekkrüger, and Constanze Leemhuis, 'Drought Frequency in the Volta Basin of West Africa', *Sustainability Science*, 5 (2009), 89–97

Katz, Cindi, 'Vagabond Capitalism and the Necessity of Social Reproduction', *Antipode*, 33 (2001), 709–28

Katz, Joanne, 'Sample-Size Implications for Population-Based Cluster Surveys of Nutritional Status', *The American Journal of Clinical Nutrition*, 61 (1995), 155–60

Katz, Joanne, Vincent J. Carey, Scott L. Zeger, and Alfred Sommer, 'Estimation of Design Effects and Diarrhea Clustering within Households and Villages', *American Journal of Epidemiology*, 138 (1993), 994–1006

Klausen, Susanne, 'The Race Welfare Society: Eugenics and Birth Control in Johannesburg, 1930-40', in *Science and Society in Southern Africa*, ed. by Saul Dubow (Manchester University Press, 2000), pp. 164–87

Knapp, Vincent J., 'The Democratization of Meat and Protein in Late Eighteenth- and Nineteenth-Century Europe', *Historian*, 59 (1997), 541–51

Knight, J.B., 'Rural-Urban Income Comparisons and Migration in Ghana', *Bulletin of the Oxford University Institute of Economics & Statistics*, 34 (1972), 199–228

Komlos, John, 'Shrinking in a Growing Economy? The Mystery of Physical Stature during the Industrial Revolution', *The Journal of Economic History*, 58 (1998), 779–802

Konadu-Agyemang, Kwadwo, 'The Best of Times and the Worst of Times: Structural Adjustment Programs and Uneven Development in Africa: The Case Of Ghana', *The Professional Geographer*, 52 (2000), 469–83

Konotey-Ahulu, F.I.D., 'Issues in Kwashiorkor', *The Lancet*, 343 (1994), 548

Kraus, Jon, 'The Political Economy of Agrarian Regression in Ghana', in *Africa's Agrarian Crisis: The Roots of Famine*, ed. by Stephen K. Commins, Michael F. Lofchie, and Rhys Payne (Boulder, CO: Lynne Rienner, 1986), pp. 103–32

Kwapong, A.A., 'Vice-Chancellor's Welcome Address', in *Food and Population: Ghana's Operation Feed Yourself Programme - a Case Study. Report of the 26th Annual New Year School of the Institute of Adult Education, 30 December 1974-8 January 1975*, ed. by Kwa O. Hagan (Legon: University of Ghana, 1975), pp. 15–19

La-Anyane, S., 'Research in Agriculture in Relation to National Economic Development', in *Scientific Research in Ghana: Proceedings of the Workshop on Research Priorities and Problems in the Execution of Research in Ghana* (Washington, D.C.: National Academy of Sciences, 1971)

Landman, J., and A.A. Jackson, 'The Role of Protein Deficiency in the Aetiology of Kwashiorkor', *The West Indian Medical Journal*, 29 (1980), 229–38

Lawson, Rowena M., 'Engel's Law and Its Application to Ghana', *Economic Bulletin of Ghana*, 6 (1962), 334–46

———, 'The Distributive System in Ghana: A Review Article', *The Journal of Development Studies*, 3 (1967), 195–205

Lentz, Carola, '"The Time When Politics Came": Ghana's Decolonisation From the Perspective of a Rural Periphery', *Journal of Contemporary African Studies*, 20 (2002), 245–74

Leslie, Joanne, 'Women's Work and Child Nutrition in the Third World', *World Development*, 16 (1988), 1341–62

Le Vine, Victor T., 'Autopsy on a Régime: Ghana's Civilian Interregnum 1969–72', *The Journal of Modern African Studies*, 25 (1987), 169–78

Lord, Jack, 'Child Labor in the Gold Coast: The Economics of Work, Education, and the Family in Late-Colonial African Childhoods, C. 1940-57', *The Journal of the History of Childhood and Youth*, 4 (2011), 88–115

Manesh, Alireza Olyaee, Trevor A. Sheldon, Kate E. Pickett, and Roy Carr-Hill, 'Accuracy of Child Morbidity Data in Demographic and Health Surveys', *International Journal of Epidemiology*, 37 (2008), 194–200

Manji, Firoze, and Carl O'Coill, 'The Missionary Position: NGOs and Development in Africa', *International Affairs*, 78 (2002), 567–83

Manson-Bahr, P.E.C., 'Fijian Kwashiorkor', *Documenta de Medicina Geographica et Tropica*, 4 (1952), 97

Martorell, Reynaldo, 'Body Size, Adaptation and Function', *Human Organization*, 48 (1989), 15–20

Masih, I., S. Maskey, F.E.P. Mussá, and P. Trambauer, 'A Review of Droughts on the African Continent: A Geospatial and Long-Term Perspective', *Hydrol. Earth Syst. Sci.*, 18 (2014), 3635–49

McCaskie, T.C., 'Accumulation: Wealth and Belief in Asante History: II the Twentieth Century', *Africa*, 56 (1986), 3–23

———, 'State and Society, Marriage and Adultery: Some Considerations Towards a Social History of Pre-Colonial Asante', *Journal of African History*, 22 (1981), 477–94

McLaren, D.S., 'A Fresh Look at Protein-Calorie Malnutrition', *The Lancet*, 288 (1966), 485–88

———, 'Issues in Kwashiorkor', *The Lancet*, 343 (1994), 548–49

———, 'The Great Protein Fiasco', *The Lancet*, 304 (1974), 93–96

McMichael, Philip, 'Reframing Development: Global Peasant Movements and the New Agrarian Question', *Canadian Journal of Development Studies*, 27 (2006), 471–83

Messer, Ellen, 'Anthropological Perspectives on Diet', *Annual Review of Anthropology*, 13 (1984), 205–49

Meyer, Birgit, 'Commodities and the Power of Prayer: Pentecostalist Attitudes Towards Consumption in Contemporary Ghana', *Development and Change*, 29 (1998), 751–76

———, 'Visions of Blood, Sex and Money: Fantasy Spaces in Popular Ghanaian Cinema', *Visual Anthropology*, 16 (2003), 15–41

Moody, C.O., 'Malnutrition in Children under Five Years of Age in the Dagomba Villages of Northern Ghana', *The Journal of the Royal Institute of Public Health and Hygiene*, 26 (1963), 224–41

Moradi, Alexander, 'Confronting Colonial Legacies—lessons from Human Development in Ghana and Kenya, 1880–2000', *Journal of International Development*, 20 (2008), 1107–21

———, 'Towards an Objective Account of Nutrition and Health in Colonial Kenya: A Study of Stature in African Army Recruits and Civilians, 1880–1980', *The Journal of Economic History*, 69 (2009), 719–54

Moradi, Alexander, and Joerg Baten, 'Inequality in Sub-Saharan Africa: New Data and New Insights from Anthropometric Estimates', *World Development*, 33 (2005), 1233–65

Morgan, W.B., 'Food Imports of West Africa', *Economic Geography*, 39 (1963), 351–62

Morris, Saul S., Carol E. Levin, Margaret Armar-Klemesu, Daniel Maxwell, and Marie T. Ruel, 'Does Geographic Targeting of Nutrition Interventions Make Sense in Cities? Evidence from Abidjan and Accra', *World Development*, 27 (1999), 2011–19

Murton, John, 'Population Growth and Poverty in Machakos District, Kenya', *The Geographical Journal*, 165 (1999), 37–46

Musoke, Latimer K., 'An Analysis of Admissions to the Paediatric Division, Mulago Hospital in 1959', *Archives of Disease in Childhood*, 36 (1961), 305–15

Nicholas, Stephen, and Deborah Oxley, 'The Living Standards of Women during the Industrial Revolution, 1795-1820', *The Economic History Review*, New Series, 46 (1993), 723–49

Nicholas, Stephen, and Richard H. Steckel, 'Heights and Living Standards of English Workers During the Early Years of Industrialization, 1770-1815', *The Journal of Economic History*, 51 (1991), 937–57

Nixon, J.A., 'Famine Dropsy as a Food-Deficiency Disease', *Bristol Medico-Chirurgical Journal*, 37 (1920), 137–48

Normet, L., 'La Bouffissure d'Annam', *Bulletin de La Société de Pathologie Exotique*, 3 (1926), 207–13

Nott, John, 'Malnutrition in a Modernising Economy: The Changing Aetiology and Epidemiology of Malnutrition in an African Kingdom, Buganda c.1940–73', *Medical History*, 60 (2016), 229–49

Nugent, Paul, 'Educating Rawlings: The Evolution of Government Strategy Towards Smuggling', in *Ghana: The Political Economy of Recovery*, ed. by Donald S. Rothchild (Boulder, CO: Lynne Rienner, 1991), pp. 49–68

Nweke, Felix I., 'Direct Governmental Production in Agriculture in Ghana: Consequences for Food Production and Consumption, 1960–1966 and 1967–1975', *Food Policy*, 3 (1978), 202–8

———, 'The Organisation of Agricultural Research in Ghana: Priorities, Problems, Implications for Domestic Food Production and Policy Issues', *Agricultural Administration*, 6 (1979), 19–29

Nyanteng, V.K., and A. Wayo Seini, 'Agricultural Policy and the Impact on Growth and Productivity 1970-95', in *Economic Reforms in Ghana: The Miracle and the Mirage*, ed. by Ernest Aryeetey, Jane Harrigan, and Machiko Nissanke (Oxford: James Curry, 2000), pp. 267–83

Obeng-Odoom, Franklin, 'Neoliberalism and the Urban Economy in Ghana: Urban Employment, Inequality, and Poverty', *Growth and Change*, 43 (2012), 85–109

———, 'The Informal Sector in Ghana under Siege', *Journal of Developing Societies*, 27 (2011), 355–92

Ofori-Sarpong, E., 'The 1981–1983 Drought in Ghana', *Singapore Journal of Tropical Geography*, 7 (1986), 108–27

Ofosu-Amaah, S., 'The Maternal and Child Health Services in Ghana', *Ghana Medical Journal*, 6 (1967), 51–59

Ó Gráda, Cormac, and Kevin H. O'Rourke, 'Migration as Disaster Relief: Lessons from the Great Irish Famine', *European Review of Economic History*, 1 (1997), 3–25

de Onis, M., 'Assessment of Differences in Linear Growth among Populations in the WHO Multicentre Growth Reference Study', *Acta Pædiatrica*, 95 (2006), 56–65

de Onis, M., and R. Yip, 'The WHO Growth Chart: Historical Considerations and Current Scientific Issues', *Bibliotheca Nutritio Et Dieta*, 1996, 74–89

Opare, Mary, and Judy E. Mill, 'The Evolution of Nursing Education in a Postindependence Context—Ghana from 1957 to 1970', *Western Journal of Nursing Research*, 22 (2000), 936–44

Oppong, Christine, 'Some Roles of Women: What Do We Know?', in *Family and Development in Ghana*, ed. by Elizabeth Ardayfio-Schandorf (Legon: Ghana Universities Press, 1994), pp. 57–94

Orraca-Tetteh, R., 'Effects of Rapid Population Growth in Ghana on Nutritional Needs', in *Symposium on Implications of Population Trends for Policy Measures in West*

Africa, ed. by N.O. Addo and others, Ghana Population Studies No. 3 (Legon: University of Ghana, 1971), pp. 57–68

Osei, Philip D., 'Political Liberalisation and the Implementation of Value Added Tax in Ghana', *The Journal of Modern African Studies*, 38 (2000), 255–78

Ostry, Jonathan D., Prakash Loungani, and Davide Furceri, 'Neoliberalism: Oversold?', *Finance & Development*, 53 (2016), 38–41

Otero, Gerardo, Gabriela Pechlaner, Giselle Liberman, and Efe Gürcan, 'The Neoliberal Diet and Inequality in the United States', *Social Science & Medicine*, 142 (2015), 47–55

Overå, Ragnhild, 'When Men Do Women's Work: Structural Adjustment, Unemployment and Changing Gender Relations in the Informal Economy of Accra, Ghana', *The Journal of Modern African Studies*, 45 (2007), 539–63

Owen, Christopher G., Richard M. Martin, Peter H. Whincup, George Davey Smith, and Derek G. Cook, 'Does Breastfeeding Influence Risk of Type 2 Diabetes in Later Life? A Quantitative Analysis of Published Evidence', *The American Journal of Clinical Nutrition*, 84 (2006), 1043–54

———, 'Effect of Infant Feeding on the Risk of Obesity across the Life Course: A Quantitative Review of Published Evidence', *Pediatrics*, 115 (2005), 1367–77

Parker, John, 'Northern Gothic: Witches, Ghosts and Werewolves in the Savanna Hinterland of the Gold Coast, 1900s-1950s', *Africa*, 76 (2006), 352–80

Patterson, K. David, 'Health in Urban Ghana: The Case of Accra 1900-1940', *Social Science & Medicine. Medical Anthropology*, 13B (1979), 251–68

———, 'River Blindness in Northern Ghana', in *Disease in African History: An Introductory Survey and Case Studies*, ed. by K. David Patterson and Gerald W. Hartwig (Durham, N.C.: Duke University Press, 1978), pp. 88–117

———, 'The Influenza Epidemic of 1918–19 in the Gold Coast', *Journal of African History*, 24 (1983), 485–502

Petty, Celia, 'Primary Research and Public Health: The Prioritisation of Nutrition Research in Inter-War Britain', in *Historical Perspectives on the Role of the MRC: Essays in the History of the Medical Research Council of the United Kingdom and Its Predecessor, the Medical Research Committee, 1913-1953*, ed. by J. Austoker and L. Bryder (Oxford: Oxford University Press, 1989), pp. 83–108

Pfeiffer, James, and Rachel Chapman, 'Anthropological Perspectives on Structural Adjustment and Public Health', *Annual Review of Anthropology*, 39 (2010), 149–65

Plange, Nii-K., 'Underdevelopment in Northern Ghana: Natural Causes or Colonial Capitalism?', *Review of African Political Economy*, 1979, 4–14

Platteau, Jean-Philippe, 'The Food Crisis in Africa: A Comparative Structural Analysis', in *The Political Economy of Hunger: Volume 2, Famine Prevention*, ed. by Jean Drèze and Amartya Sen (Oxford University Press, 1991), pp. 279–388

Popkin, Barry M., 'The Nutrition Transition in Low-Income Countries: An Emerging Crisis', *Nutrition Reviews*, 52 (1994), 285–98

Procter, R.A.W., 'Medical Work in a Native Reserve', *Kenya Medical Journal*, 3 (1926), 284–89

Purcell, F.M., 'Beri-Beri or Epidemic Dropsy', *West African Medical Journal*, 7 (1934), 143–45

Randall, Sara, and Ernestina Coast, 'Poverty in African Households: The Limits of Survey and Census Representations', *The Journal of Development Studies*, 51 (2015), 162–77

Rangasami, Amrita, '"Failure of Exchange Entitlements" Theory of Famine: A Response', *Economic and Political Weekly*, 20 (1985), 1797–1801

Rebrovick, Tripp, 'The Politics of Diet "Eco-Dietetics," Neoliberalism, and the History of Dietetic Discourses', *Political Research Quarterly*, 68 (2015), 678–89

Redfield, Peter, 'Bioexpectations: Life Technologies as Humanitarian Goods', *Public Culture*, 24 (2012), 157–84

Rhodie, Sam, 'The Gold Coast Cocoa Hold-up of 1930-31', *Transactions of the Historical Society of Ghana*, 9 (1968), 105–18

Rijpma, Sjoerd, 'Malnutrition in the History of Tropical Africa', *Civilisations*, 1996, 45–63

Robbins, Joel, 'The Globalization of Pentecostal and Charismatic Christianity', *Annual Review of Anthropology*, 33 (2004), 117–43

Robertson, Claire, 'The Death of Makola and Other Tragedies', *Canadian Journal of African Studies*, 17 (1983), 469–95

Roberts, Penelope, 'The State and the Regulation of Marriage: Sefwi Wiawso (Ghana), 1900-40', in *Women, State, and Ideology: Studies from Africa and Asia*, ed. by Haleh Afshar (Albany, NY: SUNY Press, 1987), pp. 48–69

Robotham, Don, 'The Ghana Problem', *Labour, Capital and Society*, 21 (1988), 12–35

Roemer, Michael, 'Ghana 1950-80: Missed Opportunities', in *World Economic Growth: Case Studies of Developed and Developing Nations*, ed. by Arnold C. Harberger (San Francisco, CA: ICS Press, 1984), pp. 201–26

Ruel, Marie T., Carol E. Levin, Margaret Armar-Klemesu, Daniel Maxwell, and Saul S. Morris, 'Good Care Practices Can Mitigate the Negative Effects of Poverty and Low Maternal Schooling on Children's Nutritional Status: Evidence from Accra', *World Development*, 27 (1999), 1993–2009

Russell, Beatrice A. S., 'Malnutrition in Children under Three Years of Age in Ashanti, West Africa', *Archives of Disease in Childhood*, 21 (1946), 110–12

Ruttan, Vernon W., 'The Politics of U.S. Food Aid Policy: A Historical Review', in *Why Food Aid?*, ed. by Vernon W. Ruttan (Baltimore: Johns Hopkins University Press, 1993), pp. 2–38

Sai, Fred T., 'Changing Perspectives of Population in Africa and International Responses', *African Affairs*, 87 (1988), 267–76

———, 'Introducing New Foods Against Protein Deficiency', *Nutrition Reviews*, 18 (1960), 353–55

———, 'Nutrition in Ghana', in *Nutrition and National Policy*, ed. by Beverly Winikoff (Cambridge, Mass.: M.I.T. Press, 1978), pp. 81–107

———, 'The impact of urban life on the diets of rural immigrants and its repercussions on the nutritional status of the community', *Ghana Medical Journal*, 6 (1967), 134–39

Sai, F.T., P.L.H. Davey, and P. Whitby, 'A National Food and Nutrition Survey Project', *Postgraduate Medical Journal*, 38 (1962), 112–20

Sanjek, Roger, 'Maid Servants and Market Women's Apprentices in Adabraka', in *At Work in Homes: Household Workers in World Perspective*, ed. by Roger Sanjek and Shellee Cohen (Washington, D.C.: American Anthropological Association, 1990), pp. 35–62

Sasson, Tehila, and James Vernon, 'Practising the British Way of Famine: Technologies of Relief, 1770–1985', *European Review of History: Revue Européenne D'histoire*, 22 (2015), 860–72

Schoenmaeckers, R., I.H. Shah, R. Lesthaeghe, and O. Tambashe, 'The Child-Spacing Tradition and the Postpartum Taboo in Tropical Africa: Anthropological Evidence', in *Child-Spacing in Tropical Africa: Traditions and Change*, ed. by H.J. Page and R. Schoenmaeckers (New York: Academic Press, 1981), pp. 25–71

Schofield, C., and A. Ashworth, 'Why Have Mortality Rates for Severe Malnutrition Remained so High?', *Bulletin of the World Health Organization*, 74 (1996), 223–29

Scott-Smith, Tom, 'Beyond the "Raw" and the "Cooked": A History of Fortified Blended Foods', *Disasters*, 39 (2015), 244–60

———, 'Control and Biopower in Contemporary Humanitarian Aid: The Case of Supplementary Feeding', *Journal of Refugee Studies*, 28 (2014), 1–17

———, 'Humanitarian Neophilia: The "innovation Turn" and Its Implications', *Third World Quarterly*, 0 (2016), 1–23

———, 'The Fetishism of Humanitarian Objects and the Management of Malnutrition in Emergencies', *Third World Quarterly*, 34 (2013), 913–28

Scrinis, Gyorgy, 'On the Ideology of Nutritionism', *Gastronomica*, 8 (2008), 39–48

Seckler, David, 'Small but Healthy: A Basic Hypothesis in the Theory, Measurement and Policy of Malnutrition', in *Newer Concepts in Nutrition and Their Implication for Policy*, ed. by P.V. Sukhatme (Pune, India: Maharashtra Association for the Cultivation of Science Research Institute, 1982), pp. 127–37

Shanahan, T.M., J.T. Overpeck, K.J. Anchukaitis, J.W. Beck, J.E. Cole, D.L. Dettman, and others, 'Atlantic Forcing of Persistent Drought in West Africa', *Science*, 324 (2009), 377–80

Shapin, Steven, 'How to Eat Like a Gentleman: Dietetics and Ethics in Early Modern England', in *In Right Living: An Anglo-American Tradition of Self-Help Medicine and Hygiene*, ed. by C. Rosenberg (Baltimore: Johns Hopkins University Press, 2003), pp. 21–58

Sharp, N.A. Dyce, 'A Note on a Nutritional Disease of Childhood', *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 28 (1935), 411–12

Shee, George F., 'The Deterioration in National Physique', *Nineteenth Century*, 53 (1903), 797–805

Shepherd, Andrew, 'Agrarian Change in Northern Ghana: Public Investment, Capitalist Farming and Famine', in *Rural Development in Tropical Africa*, ed. by Judith Heyer, Pepe Roberts, and Gavin Williams (London: Palgrave Macmillan, 1981), pp. 168–92

Smith, D.T., J.M. Ruffin, and S. Smith, 'Pellagra Successfully Treated with Nicotinic Acid: A Case Report', *Journal of the American Medical Association*, 109 (1937), 2054–55

Smith, Lisa C., Marie T. Ruel, and Aida Ndiaye, 'Why Is Child Malnutrition Lower in Urban Than in Rural Areas? Evidence from 36 Developing Countries', *World Development*, 33 (2005), 1285–1305

Smith, Robyn, 'The Emergence of Vitamins as Bio-Political Objects during World War I', *Studies in History and Philosophy of Biological and Biomedical Sciences*, 40 (2009), 179–89

Soloway, Richard, 'Counting the Degenerates: The Statistics of Race Deterioration in Edwardian England', *Journal of Contemporary History*, 17 (1982), 137–64

Southall, Roger J., 'Farmers, Traders and Brokers in the Gold Coast Cocoa Economy', *Canadian Journal of African Studies*, 12 (1978), 185–211

Sparr, Pamela, 'Feminist Critiques of Structural Adjustment', in *Mortgaging Women's Lives: Feminist Critiques of Structural Adjustment*, ed. by Pamela Sparr (London: Zed, 1994), pp. 13–39

Stannus, Hugh S., 'A Nutritional Disease of Childhood Associated with a Maize Diet—and Pellagra', *Archives of Disease in Childhood*, 9 (1934), 115–18

———, 'Kwashiorkor', *The Lancet*, 226 (1935), 1207–8

Stanton, J., 'Listening to the Ga: Cicely Williams' Discovery of Kwashiorkor on the Gold Coast', *Clio Medica*, 61 (2001), 149–71

Steckel, Richard H., 'Heights and Human Welfare: Recent Developments and New Directions', *Explorations in Economic History*, 46 (2009), 1–23

———, 'Stature and the Standard of Living', *Journal of Economic Literature*, 33 (1995), 1903–40

Steel, Robert W., 'Problems of Population Pressure in Tropical Africa', *Transactions of the Institute of British Geographers*, 49 (1970), 1–14

Stewart, Frances, 'The Many Faces of Adjustment', *World Development*, 19 (1991), 1847–64

Stoces, Ferdinand, 'Agricultural Production in Ghana, 1955-65', *The Economic Bulletin of Ghana*, 10 (1966), 3–32

Street, Alice, 'Food as Pharma: Marketing Nutraceuticals to India's Rural Poor', *Critical Public Health*, 25 (2015), 361–72

Summers, Carol, 'Intimate Colonialism: The Imperial Production of Reproduction in Uganda, 1907-1925', *Signs*, 16 (1991), 787–807

Sutton, Inez, 'Colonial Agricultural Policy: The Non-Development of the Northern Territories of the Gold Coast', *The International Journal of African Historical Studies*, 22 (1989), 637–69

de Swaan, Abram, 'Elite Perceptions of the Poor: Reflections on a Comparative Research Project', in *Elite Perceptions of Poverty and Inequality*, ed. by Elisa Pereira Reis and Mick Moore (London: ZED Books, 2005), pp. 182–94

Szreter, Simon, 'The Idea of Demographic Transition and the Study of Fertility Change: A Critical Intellectual History', *Population and Development Review*, 19 (1993), 659–701

Tait, David, 'A Sorcery Hunt in Dagomba', *Africa*, 33 (1963), 136–47

Takyiwaa, Manu, 'Ghana: Women in the Public and Informal Sectors under the Economic Recovery Programme', in *Mortgaging Women's Lives: Feminist Critiques of Structural Adjustment*, ed. by Pamela Sparr (London: Zed, 1994), pp. 61–77

Tedlie, H., 'Materia Medica and Diseases', in *Mission from Cape Coast Castle to Ashantee: With a Statistical Account of That Kingdom and Geographical Notices of Other*

Parts of the Interior of Africa, by T.E. Bowdich (London: John Murray, 1819), pp. 370–80

Teich, Mikulas, 'Science and Food during the Great War: Britain and Germany', in *The Science and Culture of Nutrition, 1840-1940*, ed. by Harmke Kamminga and Andrew Cunningham (Amsterdam: Rodpoi, 1995), pp. 213–34

Tette, Edem M.A., Margaret Neizer, Maame Yaa Nyarko, Eric K. Sifah, Edmund T. Nartey, and Eric S. Donkor, 'Changing Patterns of Disease and Mortality at the Children's Hospital, Accra: Are Infections Rising?', *PLOS ONE*, 11 (2016), 1–12

Tette, Edem M.A., Eric K. Sifah, Edmund T. Nartey, Peter Nuro-Ameyaw, Pricilla Tete-Donkor, and Richard B. Biritwum, 'Maternal Profiles and Social Determinants of Malnutrition and the MDGs: What Have We Learnt?', *BMC Public Health*, 16 (2016), 214

Thang, Nguyen Minh, and Barry M. Popkin, 'In an Era of Economic Growth, Is Inequity Holding Back Reductions in Child Malnutrition in Vietnam?', *Asia Pacific Journal of Clinical Nutrition*, 12 (2003), 405–10

Thomas, Roger G., 'Forced Labour in British West Africa: The Case of the Northern Territories of the Gold Coast 1906–1927', *Journal of African History*, 14 (1973), 79–103

Tommaselli, Giovanni A., Maurizio Guida, Stefano Palomba, Michele Barbato, and Carmine Nappi, 'Using Complete Breastfeeding and Lactational Amenorrhoea as Birth Spacing Methods', *Contraception*, 61 (2000), 253–57

Townsend, Peter, 'Poverty as Relative Deprivation: Resources and Style of Living', in *Poverty, Inequality & Class Structure*, ed. by Dorothy Wedderburn (Cambridge: Cambridge University Press, 1975), pp. 15–42

Trowell, H.C., 'Infantile Pellagra', *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 33 (1940), 389–404

———, 'The Beginning of the Kwashiorkor Story in Africa', *Central African Journal of Medicine*, 21 (1975), 1–5

Trowell, H.C., J.N.P. Davies, and R.F.A. Dean, 'Kwashiorkor—II. Clinical Picture, Pathology, and Diagnosis', *British Medical Journal*, 2 (1952), 798–801

Truswell, A. Stewart, 'Protein-Energy Malnutrition', in *Essentials of Human Nutrition*, ed. by A. Stewart Truswell and Jim Mann (Oxford: Oxford University Press, 2012), pp. 301–9

Tsey, Komla, and Stephanie D. Short, 'From Headloading to the Iron Horse: The Unequal Health Consequences of Railway Construction and Expansion in the Gold Coast, 1898–1929', *Social Science & Medicine*, 40 (1995), 613–21

Twumasi, P.A., 'Colonialism and International Health: A Study in Social Change in Ghana', *Social Science & Medicine. Medical Anthropology*, 15B (1981), 147–51

Uauy, Ricardo, Cecilia Albala, and Juliana Kain, 'Obesity Trends in Latin America: Transiting from Under- to Overweight', *The Journal of Nutrition*, 131 (2001), 893S – 899S

UNICEF, 'Adjustment Policies and Programmes to Protect Children and Other Vulnerable Groups in Ghana', in *Adjustment with a Human Face: Country Case Studies*, ed. by Giovanni Andrea Cornia, Richard Jolly, and Frances Stewart, 2 vols (Oxford: Clarendon Press, 1987), II, 93–125

Vail, Leroy, 'Ecology and History: The Example of Eastern Zambia', *Journal of Southern African Studies*, 3 (1977), 129–55

Van de Poel, Ellen, Ahmad Reza Hosseinpoor, Caroline Jehu-Appiah, Jeanette Vega, and Niko Speybroeck, 'Malnutrition and the Disproportional Burden on the Poor: The Case of Ghana', *International Journal for Equity in Health*, 6 (2007), 1–12

Vella, Venanzio, Andrew Tomkins, John Nviku, and Tom Marshall, 'Determinants of Nutritional Status in South-West Uganda', *Journal of Tropical Pediatrics*, 41 (1995), 89–98

Vellenga, Dorothy Dee, 'Matriliny, Patriliny, and Class Formation Among Women Cocoa Farmers in Two Rural Areas of Ghana', in *Women and Class in Africa*, ed. by Claire Robertson and Iris Berger (New York: Africana Publishing Company, 1986), pp. 62–77

———, 'Who Is a Wife? Legal Expressions of Heterosexual Conflicts in Ghana', in *Female and Male in West Africa*, ed. by Christine Oppong (London: George Allen & Unwin, 1983), pp. 144–55

Vernon, James, 'The Ethics of Hunger and the Assembly of Society: The Techno-Politics of the School Meal in Modern Britain', *The American Historical Review*, 110 (2005), 693–725

Volta, B., 'The Future of Ghana's Wildlife', *The Ghana Farmer*, 15 (1971), 30–35

Waddington, C.J., and K.A. Enyimayew, 'A Price to Pay: The Impact of User Charges in Ashanti-Akim District, Ghana', *The International Journal of Health Planning and Management*, 4 (1989), 17–47

Waddy, B.B., 'A District Medical Officer in North-West Ghana', in *Health in Tropical Africa During the Colonial Period*, ed. by E.E. Sabben-Clarke, D.J. Bradley, and K. Kirkwood (Oxford: Clarendon Press, 1980), pp. 159–65

———, 'Heights and Weights of Children in the Northern Territories of the Gold Coast', *Journal of Tropical Medicine and Hygiene*, 59 (1956), 1–4

———, 'Organization and Work of the Gold Coast Medical Field Units', *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 50 (1956), 313–43

Wallace, Tina, 'NGO Dilemmas: Trojan Horses for Global Neoliberalism?', *Socialist Register*, 40 (2009), 202–19

Waterlow, J.C., and P.R. Payne, 'The Protein Gap', *Nature*, 258 (1975), 113–17

Watts, Michael, 'Entitlements or Empowerment? Famine and Starvation in Africa', *Review of African Political Economy*, 1991, 9–26

———, 'Visions of Excess: African Development in an Age of Market Idolatry', *Transition*, 1991, 124–41

Webber, Paul, 'Agrarian Change in Kusasi, North-East Ghana', *Africa*, 66 (1996), 437–57

Weiss, Holger, 'Crop Failures, Food Shortages and Colonial Famine Relief Policies in the Northern Territories of the Gold Coast', *Ghana Studies*, 6 (2003), 5–58

Welbourn, H.F., 'Bottle Feeding: A Problem of Modern Civilization', *Journal of Tropical Pediatrics*, 3 (1958), 157–66

———, 'The Danger Period During Weaning', *Journal of Tropical Pediatrics*, 1 (1955), 34–46

Werlin, Herbert H., 'The Consequences of Corruption: The Ghanaian Experience', *Political Science Quarterly*, 88 (1973), 71–85

Westoff, Charles F., 'Is the KAP-Gap Real?', *Population and Development Review*, 14 (1988), 225–32

White, Howard, 'Combining Quantitative and Qualitative Approaches in Poverty Analysis', *World Development*, 30 (2002), 511–22

White, Howard, and Edward Anderson, 'Growth versus Distribution: Does the Pattern of Growth Matter?', *Development Policy Review*, 19 (2001), 267–89

White, H.P., 'Internal Exchange of Staple Foods in the Gold Coast', *Economic Geography*, 32 (1956), 115–25

Whiting, J.W.M., 'Effects of Climate on Certain Cultural Practices', in *Explorations in Cultural Anthropology*, by W. Goodenough (New York: McGraw-Hill, 1964), pp. 511–44

Wiemers, Alice, 'A "Time of Agric": Rethinking the "Failure" of Agricultural Programs in 1970s Ghana', *World Development*, 66 (2015), 104–17

Wilkinson, Richard G., and Kate E. Pickett, 'Income Inequality and Social Dysfunction', *Annual Review of Sociology*, 35 (2009), 493–511

Williams, Cicely D., 'A Nutritional Disease of Childhood Associated with a Maize Diet', *Archives of Disease in Childhood*, 8 (1933), 423–33

———, 'Child Health in the Gold Coast', *The Lancet*, 231 (1938), 97–102

———, 'Council on Foods and Nutrition', *Journal of the American Medical Association*, 153 (1953), 1280–85

———, 'Kwashiorkor: A Nutritional Disease of Children Associated with a Maize Diet', *The Lancet*, 226 (1935), 1151

———, 'Maternal and Child Health in Kumasi in 1935', *Journal of Tropical Pediatrics*, 2 (1956), 141–46

Worboys, Michael, 'The Discovery of Colonial Malnutrition Between the Wars', in *Imperial Medicine and Indigenous Societies*, ed. by David Arnold (Manchester: Manchester University Press, 1988), pp. 208–25

Yaro, Joseph Awetori, 'Is Deagrarianisation Real? A Study of Livelihood Activities in Rural Northern Ghana', *The Journal of Modern African Studies*, 44 (2006), 125–56

Yarom, R., and J. McFie, 'Kwashiorkor in the Congo: A Clinical Survey of a Hundred Successive Cases in the Kasai Province', *The Journal of Tropical Pediatrics and Environmental Child Health*, 9 (1963), 56–63

Zeng, Ning, 'Drought in the Sahel', *Science*, 302 (2003), 999–1000