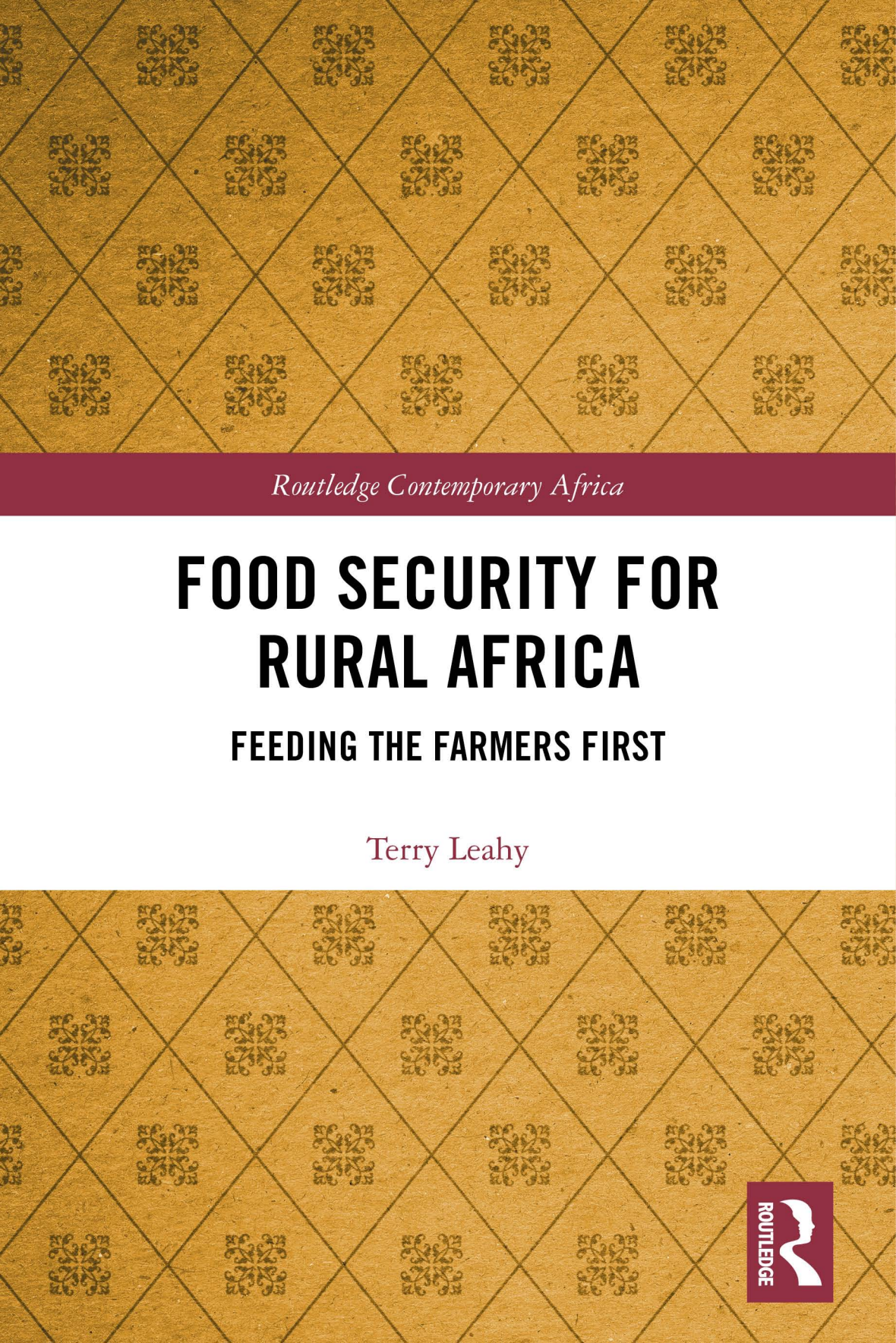
Routledge Contemporary Africa
FOOD SECURITY FOR RURAL AFRICA
FEEDING THE FARMERS FIRST
Terry Leahy
ROUTLEDGE

Food Security for Rural Africa

At least fifty years of projects aimed at the rural poor in Africa have had very little impact. Up to half of the children of these countries are still suffering from stunting and malnutrition. Soil degradation and poor crop yields are ubiquitous. Projects are almost always aimed at helping local people to solve their problems by growing for the market. In some countries, projects link poor villagers into cooperatives to produce a commercial output. In other countries, projects target more competent entrepreneurial villagers. Almost all these projects fail after several years. Even those that are successful make few inroads into the problems.

While the slogan 'feeding the farmers first' comes from the Philippines, it is particularly applicable to much of Africa, where household food security can come from household production. This book explains how projects can be designed that increase food security through subsistence production. Focusing on particular people and projects, it gives a sociological analysis of why this is so difficult to manage. This book challenges the models promoted by academics in the field of development studies and argues against the strategies adopted by most donor organizations and government bodies. It explains why commercial projects have been so ubiquitous even though they rarely work. It gives practical tips on how to set up villages and farms to achieve sustainable solutions that also provide plenty of nutritious food. The book is written to be accessible and engaging. For anyone planning to work in the rural areas of Africa, this book is required reading.

Terry Leahy is Conjoint Senior Lecturer in the School of Humanities and Social Science at Newcastle University, Australia.

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Preface and acknowledgements

Over the last fifteen years, my academic work and my field trips to Africa have focused on food security projects. In 2003 I was convenor of the Masters of Social Change and Development degree at Newcastle University in Australia. We had a particularly active international officer, David Wise, who was keen to recruit students from many countries in Africa. He shared with our dean Terry Lovat the view that the rich countries had a responsibility to give assistance to the developing world, through projects that were practical and could build capacity at the local level. At that time the Australian government was running a programme of liaison with South Africa to help that country to establish 'LandCare' in South Africa. 'Landcare' in Australia had been started by farmers. They had set up local associations to deal with land degradation and to promote sustainable agriculture. The Australian government had initiated a programme to help South Africa to set up a similar network through its agriculture departments. As part of that liaison, the Australian government was offering scholarships for agricultural officers from South Africa to come to Australia for postgraduate study. David Wise managed to recruit ten of these students to undertake the Masters of Social Change and Development at the University of Newcastle, as a first intake. In subsequent years, our programme recruited hundreds of international students from different parts of the world. African students were always a key part of that mix. Initially, the rural development projects of particular interest to the African agricultural officers were covered in a variety of ways. First through courses in project design, evaluation and research methodology. Along with these were courses that were open to student initiative, such as special projects and research projects. In these I started to teach the material on food security and rural development that was later to become a subject in our degree.

My students taught me a lot. As they developed their special projects we would meet to plan their research. I suggested reading and talked through the situations they had faced as agricultural officers. We worked out what they could do for their research and they went back in our summer break to do interviews and conduct participant observation. Their research was conducted in the rural areas where they had been working as agricultural officers. For the most part, the work they had been doing did not concern large commercial farms, usually owned by white people. Instead they had been attending to the farming

enterprises of rural smallholders, black people who had been relocated into 'native reserves' in the colonial period. Poverty in these rural villages was extreme. Cropping for household food supply was common, both in South Africa and the other African countries from which our students came. However, it was unfortunately very typical that this cropping did not provide an adequate diet. There were hungry periods and diets were short of many essential nutrients. Our research uncovered the statistics on all this – stunting of children under 5 years old, nutrient deficiencies and unemployment.

The research of my students showed me that most of the projects being run in the villages were not really working to relieve food insecurity. They were mostly oriented to attempts to turn very poor rural smallholders into successful entrepreneurs of small businesses. In many cases they were intended to set up money making cooperatives for local people to join together to make an income from their joint production. Mostly, these projects failed in the longer term. The businesses did not make money or fell apart. Food insecurity remained.

In 2006 I visited South Africa to investigate the situation on the ground. I decided to spend part of my time with agricultural officers driving out to visit various projects that the departments had initiated. The other part of my time was spent staying in the villages. On this first trip, I spent more than two months in two rural villages hosted by local people. My previous students, who had now returned to their jobs, helped me immensely with all this. In particular Linah Mokoena arranged my stay in Lilydale, Limpopo province, with a local primary teacher, Margaret Themba. Abram Shabangu arranged my stay with the chief's wife, Thoko Zibi in Khayakhulu in North West province. I went on visits to projects with these two ex-students and also with other students from our degree – Caroline Makgopa, Philetus Nyandane, Lehman Lindeque and Charles Mojela. On some occasions I went with other officers from their departments to visit village projects.

There were subsequent visits (2009, 2010, 2014) and in these I extended my research to include neighbouring countries which had a similar history of colonization by Britain: Malawi, Zambia, Zimbabwe, Uganda, Kenya, Namibia. In Uganda I was given assistance by my previous student, Francis Alinyo, who was working in a remote area next to a national park. I also developed contacts with people involved in NGO work in Africa. These partly came out of the permaculture movement. I attended an international permaculture conference in Malawi in 2009 where I met Elijah Kyamuwendo from the Kulika project in Uganda and the team from the CELUCT project in Zimbabwe, Chester Chituwu, Eli and Ulli Westermann, Phineas Chikoshana, Sam Chimbarara, Julious Piti and Patience Sithole. In 2009, I also developed contacts in African universities that were interested in my research on rural projects: Namibia Polytechnic; Makerere University in Uganda; University of Fort Hare in South Africa; Walter Sisulu University in South Africa.

In 2010, I went to visit these universities. I started off in Namibia, presenting lectures and discussing the situation with staff there. In Eastern Cape I was hosted by Francois Lategan, a lecturer in agricultural extension from Fort Hare.

I stayed in Alice for a month, talking with people from the university and visiting the villages. Later I stayed in Mthatha, hosted by Professor Peggy Luswazi from Walter Sisulu University. There, I attended a conference on rural development, as well as a national anthropology conference on the coast. I followed that up with visits to talk to agricultural officers and visit sites in Limpopo and North Western province. After my time in South Africa, I moved to Uganda, visiting the highlands, talking to academics and students at Makerere University and interviewing people from the Kulika project. In 2009, I had been invited to prepare a documentary on the CELUCT project in the Chimanimani district of Zimbabwe. In 2010, following my time in Uganda, I went there with my sister, Gillian Leahy, to do the filming. On the way, I stayed with a local permaculture activist, Anna Brazier, who introduced me to Zimbabwe. After we arrived in the villages, Gillian and I did long days, filming interviews and people's farm projects. We took in both the Chikukwa clan villages where CELUCT was working and the wider district of Chimanimani, where the TSURO project was operating. After this I stayed a month in Zambia at the Tiko project near Katete. I had been contacted by the founder, Elke Kroeger-Radcliffe, and invited. This was a great opportunity to interview local people and to observe agricultural strategies in rural Zambian villages, which surrounded the project on all sides.

In 2014 I secured another six months of study leave from my university and returned to further investigate projects that were working well. I first stayed in Port St John in the Eastern Cape to work with the Is'Baya project. Most of the time I spent with the chief field officer, Paul Oliphant, who took me to meetings that he was having with the village representatives and beneficiaries from the project. At the office I spoke with founders and executive officers, Peter Jones and Rose Du Preez. I stayed in two different villages with project monitors from the project, local people appointed to connect the beneficiaries of the project with the project office. These monitors took me to interview local households that were part of the project and to look at their agricultural strategies. Andile Sontlaba was the monitor at Khluleka village, which was in one of the drier parts of Eastern Cape. My next stay was at Noqhekwana village, which is on the coast and receives a lot more rainfall. The monitor there was Thembi and I stayed in her sister's house.

The second half of my visit in 2014 was spent at the CELUCT (Chikukwa) project in Chimanimani. I was assigned a guide who was a young man from the chief's clan, Zeddy Chikukwa. I also visited households with Sam Chimbarara, one of the project officers. I attended meetings of the project, both with beneficiaries and with the executive. I also made visits to the sites of the TSURO project, which covers the whole of the Chimanimani district, with a number of different project officers. I was hosted by Ulli Westermann. As part of this I visited the dryland site of the PORET project run by Julious Piti.

Beyond all this, my research has been informed by the investigations conducted by my postgraduate students from Africa. Some of these have been Blessings Susuwele, Ezra Mbendera, Unathi Sihlahla, Rita Makwakwa, Mooko

Motheo and Thembekile Madondo. These people have participated enthusiastically in our courses and spoken up about their experiences as we discussed the situation on the ground.

To all these people and the numerous others who I have not been able to mention I offer my heartfelt thanks.

The co-authors in this book are all people who have been encountered in this process of investigation. Debbie Jean Brown was a fellow researcher I met in Zambia. Francis Alinyo was one of my postgraduate students from Uganda. Monika Goforth and Karen Stewart were our students as well. They are two young people from the rich countries who aim to make a difference through their development work. They have subsequently gone on to do just that, Monika in Guatemala and Karen in Bougainville and Queensland.

This book would not have been possible without the support of my family and friends in Australia. My partner Pamela Nilan has always been a great role model for how to deal with academia and maintain one's enthusiasm for research and writing. Her work in Indonesia has shown me what it means to conduct ethnographic research in a developing country. She is a skilled author and has helped me to work out how to write in a way that is accessible and authoritative at the same time. She is also one of the founders of our Masters of Social Change and Development Programme and was the convenor before I took up that role. My friend Lena Rodriguez has supported me as a colleague, teaching our degree with the amazing international students that we have been lucky enough to encounter. More recently she has helped me with editing and corrections for this book. My children, Viv and Lily, are a constant delight and have always been interested in what I have been working on. My sister Gillian has spared no effort to turn her film making skills to helping me document one of the most successful and innovative food security projects ever established in Africa. In the end, as people always say, the mistakes in this book are all mine.

I will not use up space in the rest of this preface to explain the book in detail. Clearly I have been concerned to work out what is going wrong with food security projects in Africa. Why do they so often fail and why have they had such a small impact on rural poverty and malnutrition? What kinds of projects could work better to deal with these problems?

The chapters in this book are written with postgraduate students and fellow academics in mind. I am especially hoping that the book will be used in African universities in courses in development studies, agricultural extension, social work and education. Professionals in all these fields have a vital role to play in improving the situation in the villages. Likewise, international NGOs working in Africa can make a big difference if they know what can work. Students from the rich countries study international development because they want to join organizations that can assist the developing world. This book is designed to help them to see what is going on at the local level in Africa; to understand what kinds of projects could work and what kind of projects are likely to fail.

The vignettes in this book are written in a less academic tone and are much shorter than the chapters. The aim of these vignettes is to provide some more of

the nuts and bolts that agricultural officers, social workers, teachers and NGO staff will need in the field. Ideally I would like to see these vignettes printed out for discussion in a lunch break, or for a seminar, to get these on the ground professional staff thinking about what might work well in the projects to which they are connected.

Many of the observations and suggestions in this book challenge the models promoted both by academics in the field of development studies and by large donor organizations. What is evident is that with a very few exceptions the poorest of the poor are not going to become successful commercial farmers. Projects designed with that aim in mind have made little impact on food insecurity. This book therefore makes the case that alternatives that embed the notion of 'feeding the farmers first' will be more successful.

1 Food security as a global and African problem

Terry Leahy

The subtitle for this book, *Feeding the Farmers First*, refers to a particular type of strategy for food insecurity problems in rural sub-Saharan Africa. The book will concentrate on areas of Southern and Eastern Africa where the authors have conducted field research. These are countries where a history of British colonialism has created similar patterns of land use and employment. Development strategies must be adapted to the cultural, political and economic realities of a particular region, rather than assuming that one size fits all. Yet there is no doubt that many other countries of Africa, and indeed the world, could benefit from the perspective elaborated here.

Feeding the farmers first

'Feeding the farmers first' is a slogan devised by MASIPAG in the Philippines. MASIPAG is an organization of 30,000 smallholder farms (Wright 2008). The members are reacting to extreme poverty and food insecurity, despite decades of promises and quite drastic land reform. Land reform in the Philippines has been compromised by a cycle of debt. Smallholder farmers get into debt to engage in 'modern' agriculture (MASIPAG 2013). Far too often, they end up selling their land to discharge the debt. Even when this disaster has not happened, the small income they are deriving from selling their agricultural products, after paying off their debts, has been insufficient for food security. MASIPAG wants a long term solution that can ensure food security and remove the cycle of debt. A central part of their approach is 'feeding the farmers first'. As Gabriel Diaz, a farmer and trainer from Mindanao, explains:

> There is a big difference between the MASIPAG and non-MASIPAG farmers. In MASIPAG, the farmer holds the decisions. For farmer-led agriculture the farmer is not dependent on the inputs or seeds from other people. He has control over the inputs and can reduce them. The inputs we use come from the farm. The focus is the security of the family. We don't get hungry. The first thing we think of in our farm is our family having enough to eat. This is before going to market.
>
> (Bachmann *et al*. 2009: 22)

This strategy flies in the face of decades of development advice. Most rural development projects attempt to move farmers out of 'traditional subsistence' farming and into commercial farming. Instead, MASIPAG proposes that these smallholders make family 'subsistence' their *first* priority.

When I talk about 'subsistence' farming I am using the term to talk about the way what is being produced enters the economy. Farming is 'for subsistence' if the food being produced is distributed *without money changing hands*. What often gets assumed is that 'subsistence' farming *has to be* inefficient, small scale, traditional and incapable of producing a good yield. While all these negative descriptions may make sense for particular instances of subsistence agriculture, there is nothing about the concept of 'subsistence' that makes any of this inevitable. 'Subsistence' farming can make use of the latest science, as well as much traditional knowledge, and can produce a good yield and not just a 'bare subsistence'. The bad odour of 'subsistence' farming is very hard to shift. The de facto solution has been to promote 'subsistence' without using that term. The phrase 'household food security' is often used. In reality, *household food security* could come about in any number of ways. People could buy food from a supermarket! The MASIPAG slogan, 'feeding the farmers first', is more honest. It also achieves another useful goal. The aim of this strategy is *not* to prevent farmers from growing a crop to get some cash. In today's economy everyone needs money. After what is 'first' has been sorted out – feeding the farmers and their families – then it would clearly make sense 'second' to go on to grow a cash crop.

The MASIPAG strategy is to move farmers towards 'sustainable agriculture' and organic farming. Environmentalists argue that high input farming is destroying soils (Pretty 1999). There is also an economic argument. MASIPAG aims to remove the cycles of debt that can end up with farmers losing their land. Because they are using inputs produced on the farm, MASIPAG farmers do not have to take out a loan to buy inputs.

> [F]armer empowerment means increasing the control of farmers over their economic circumstances by 'breaking the chains of economic dependence'. Dependence here refers to the cycle of indebtedness that many farmers face as they borrow money to buy farm inputs and then need to sell rice to recoup costs, effectively tying them to a capitalist, corporatized agriculture.
>
> (Wright 2008: 226)

This introduction may give the reader a sense of where the argument of this book is going. Before getting into this in detail, this chapter will consider three topics: current issues of food security in the world in general and in Africa in particular; the typical remedies being proposed by mainstream economists; the contrasting approaches typically proposed by leftist critics of this economics mainstream.

Hunger as a global and African problem

The *Global Nutrition Report* of 2016 was prepared by an independent expert group associated with the International Food Policy Research Institute (IFPRI 2016). Out of a world population of seven billion, two billion people are suffering from an inadequate diet, leading to a deficiency of micronutrients such as vitamin A, calcium, iron and the like. Nearly 800 million people are suffering from a deficiency of calories. These broad patterns of malnutrition are reflected in specific and enduring consequences for children. Of 667 million children world wide, 159 million are stunted, too short for their age, and 50 million do not weigh enough for their height – defined as 'wasted' (IFPRI 2016: 2). These problems of malnutrition are declining in every region except Africa. For Asia the number of children who are suffering from stunting declined from 190 million in 1990 to 91 million in 2014. The number suffering from stunting increased in Africa over the same period from 47 million to 58 million (IFPRI 2016: 17). For the countries with which this book is most concerned, the rates of stunting for children under five are detailed in Table 1.1.

Of particular concern, more than 20 per cent of reproductive women suffer from anaemia, going up to 40 per cent in Kenya and Tanzania (IFPRI 2016).

Reductions in malnutrition have varied between different Asian countries, with the greatest improvements taking place in China. For example, the percentage of stunted children has declined overall in Asia from 38 per cent in 2000 to 23 per cent in 2015 (UNICEF 2017). Yet in South Asia, there are still 40 per cent of children under five stunted (IFPRI 2016: 3; UNICEF 2017). The success of Asian countries in reducing malnutrition and the failure of Africa to do likewise is often a key point of discussion.

The 2015 *Regional Overview of Food Security Africa* (FAO) considers these problems in more detail, giving a more optimistic picture of trends in sub-Saharan Africa. It is estimated that about a quarter of the population are suffering from malnutrition currently, compared to about a third in 1990 (FAO 2015: 1). At the

Table 1.1 Rates of stunting for children under five

Country	*Percentage stunting children under five*
Namibia	23.1
South Africa	23.9
Kenya	26.0
Zimbabwe	27.6
Botswana	31.4
Lesotho	33.2
Uganda	34.2
Tanzania	34.7
Zambia	40.0
Malawi	42.4

Source: IFPRI (2016: 120).

same time, the *absolute* numbers have increased. There are now 218 million undernourished people in sub-Saharan Africa compared to 176 million in 1990 (FAO 2015: 1). The decline in the percentage prevalence of malnutrition in Africa comes in part from economic expansion and the corresponding increase in employment, wages and purchased household food provision. Yet this economic expansion is mostly in the extractive production of mineral resources, with a constantly diminishing contribution from the agricultural sector – in which most of the poor are located (FAO 2015: 17).

Forty years or more of international projects and government interventions to commercialize agriculture have not actually improved the lot of the rural African underclass. Problems revealed in the 1950s, such as vitamin deficiencies and stunting, are still endemic (Barkworth and Harland 2009; Department of Agriculture 2002; Japan Association 2008). South Africa is the wealthiest country in this region. Yet in 2000 about 35 per cent of the total population were suffering from food insecurity and up to 27 per cent of young children were suffering from stunting (Department of Agriculture 2002: 22–23). Estimates of stunting for preschool children remain unacceptably high. In 2010, 33 per cent for Southern Africa and 45 per cent for Eastern Africa, including such countries as Zambia and Malawi (de Onis *et al*. 2011: 144). In sub-Saharan Africa there were 204 million chronically undernourished people in 2002, of which 80 per cent were from rural households (Haile 2005: 2169). In Malawi, 60 per cent of children under five and 57 per cent of women are suffering from vitamin A deficiencies. Eighty per cent of children under five and 27 per cent of women are suffering from anaemia due to iron deficiency (Japan Association 2008: 39).

Throughout this region, woodlands are deforested, fuel wood is in short supply, soils are packed down hard and crop yields are low (Japan Association 2008; Marenya and Barrett 2007). Farmers are not using fertilizers or other inputs because they cannot afford them. For example in Tanzania, only 15 per cent of farmers are using fertilizer and crop productivity is 1.7 tonnes per hectare, compared with yields of 3.5 to 4 tonnes that are possible (Wolter 2008: 14). The environmental and productivity effects of poor agricultural techniques are compounded by high rates of population growth and smaller plot sizes (Marenya and Barrett 2007).

Definitions of malnutrition and food security

International definitions of malnutrition are based on medical science. For example calories consumed per day; micronutrients, assessed through a blood test; wasting and stunting, assessed through age in relation to body measurements (Leathers and Foster 2009). A minimum estimated average daily energy requirement is 2,200 kcal. The average intake in sub-Saharan Africa was estimated at 2,150 kcal/day in 2003, an improvement from 2,050 per day thirty years earlier (FAO 2003b: 4).

In 1983 and again in 1986, ‘food security’ was defined by the FAO as secure access to foods necessary for an active and healthy life – a definition based on

medical science. By 1996, the definition took into account people's cultural understandings of food. There is no point in policies that supply medically sufficient nutrients if people do not find them acceptable *as food*.

> Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.
>
> (FAO 2003b: 28)

This is the definition that will be used in this book. What will become apparent is that nutritional adequacy, workable project design and culturally acquired food preferences do not necessarily line up.

Mainstream economists on food security

Dominant thinking on hunger and food security comes from mainstream economics writers. I will take *The World Food Problem: Toward Ending Undernutrition in the Third World* (Leathers and Foster 2009), as a representative authoritative textbook from the point of view of mainstream economics. The book falls into two main sections. One outlines the problems and the other looks at solutions. The basic perspective of mainstream economists is that food security can be alleviated by economic development, increasing the incomes of the poor so that they can buy food. They see this development as a transition away from traditional subsistence agriculture into a globalized commercial agriculture. They oppose most forms of government intervention in the economy, seeing these as hindering the economic growth that will ultimately solve all problems. At most, governments should build roads and facilitate marketing. As we shall see, Leathers and Foster develop this approach through a discussion of a variety of particular issues.

Explaining the problems

Leathers and Foster describe the 2008 food crisis as an example of the global problems of food security. Food prices on the international market rose steadily from 2000 to 2006 and then escalated dramatically between 2006 and 2008. The price of basic staple foods soared. For example maize went from $164 to $287 per metric tonne between 2007 and 2008. Overall grain prices were 3.34 times what they had been in 2000 (Leathers and Foster 2009: 85). The implication that I draw from this is that on a small plot of land, you can be caught out by a sudden spike in the cost of basic foods – unable to sell your cash crop for sufficient income to pay for your food. By contrast if your small plot produces enough for your own needs and you are not depending on cash income to pay for inputs, you can ride out an economic crisis.

Leathers and Foster acknowledge the food security problems of sub-Saharan Africa as unique. Whereas in other part of the world the food produced per

capita has continually increased, that has not been the situation in sub-Saharan Africa – 'in 2005, food production per capita was about 12 per cent lower than it was in 1961' (Leathers and Foster 2009: 132). To add to this, the 'poverty level' which is always measured in dollars of cash income, actually went up between 1970 and 1998 – from 53 per cent poor to 64 per cent (Leathers and Foster 2009: 157). Notwithstanding these grim statistics, the economic situation has recently improved, with a doubling of GDP in Africa (FAO 2015: 17). Yet the problems of under-nutrition have remained. Africa is clearly a continent in which the usual prescriptions of economists have not applied. Africa did not work its way out of food insecurity through modernization and enterprise. In more recent periods, economic improvement has taken place but has not ended hunger for the poor.

Turning to Asian success stories, Leathers and Foster cite evidence intended to show the futility of subsistence agriculture. A Vietnamese survey of subsistence versus market oriented farmers shows that the latter 'have higher incomes, lower poverty rates and larger farms; that they are more likely to live in an area that has a market or a commercial enterprise; and that they produce more 'high-value and industrial crops' (Leathers and Foster 2009: 210). Let us begin with two factors from this report and take these as the causal roots of the phenomenon being described. One is that the farmers with larger landholdings are the ones most likely to produce for the market. Clearly, these farmers can readily add a commercial enterprise to their subsistence farming and make money from that. Farmers with smaller plots may be better advised to concentrate on subsistence. Even farmers with larger landholdings may do better by maintaining their subsistence agriculture to supply family food needs, while they use their extra land for commercial production. The second factor is that farmers are more likely to make an income from commercial farming if they live in an area with good markets, usually an area serviced by good roads and close to a town or city, an area in which other farmers are also engaged in commercial enterprises. So these commercial options are not available to farmers in less well favoured sites. Such farmers may do better to improve their subsistence rather than taking off into risky commercial ventures.

If we take these two factors as the primary drivers behind the successes of those participating in market agriculture we can make sense of the other elements of the findings. 'Poverty rates' are always defined in terms of cash income, usually in US dollars per day. It is a truism that those who engage in commercial farming will have less poverty and higher incomes than those who are purely subsistence farmers. That does not mean that it is necessarily a viable strategy for subsistence farmers to sell part of their crop to get income, as I will explain. Farmers who are growing at least some produce for the market are more likely than subsistence farmers to be growing high value crops. On at least some of their farm they may grow flowers, coffee, tobacco and the like. The subsistence farmer would be better off growing crops that provide good nutrition and do not require purchased inputs to flourish.

Let me suggest another interpretation of the correlation between higher income and market oriented farming. We know that these commercial farmers

are more likely to live close to a major centre. Let us assume they are people who have spent years working in these local centres, saving some of their earnings. They have put some of this money into improving their farms – by buying land, irrigation, farming tools, livestock, synthetic fertilizers and pesticides, hybrid seeds, fencing materials. This becomes a virtuous circle. Saved off-farm income goes into building the farm, which also turns a profit. None of this logic applies to subsistence farmers who do not happen to have this backing in extra-farm income. They cannot jump-start a process towards higher income by concentrating on high value cash crops instead of subsistence crops. That is most likely to be a route to further hunger, increased poverty and debt.

Adjoining this discussion is some evidence of the relevance and efficacy of subsistence strategies. A study from India shows that small family farms gain better yields per hectare than large farm businesses. The explanation is that family members will work to produce, even if the value of what they are producing is less than the going wage for rural employment. The reason for this behaviour is not explained by Leathers and Foster. The wages these family workers could earn off the farm may be higher than the cash value *at the farm gate* of what they are producing on their family farm. But the food they are producing on their family farm would cost more to buy (*at retail prices*) than the value of the wages they are giving up. Linked to this is the fact that on these small family farms, family members may 'have no higher-valued use for their time' (Leathers and Foster 2009: 207). This means either (a) these farmers are doing subsistence because they cannot get paid off-farm employment that will earn them sufficient income to pay for family food needs or (b) they are doing subsistence because producing higher value cash crops to sell will not actually enable the family to buy enough food. I will come back to this.

The authors point to the continued relevance of subsistence farming. For example in Nigeria 85 per cent of rural families sell *less than half* of their produce on the market; the rest is consumed by the family, which counts as subsistence. In the 1990s, 60 per cent of India's farmers had less than a hectare of land and produced no marketable surplus (Leathers and Foster 2009: 210). The argument of *Feeding the Farmers First* will be that such farmers are not showing a blind allegiance to an outdated economic model but are making a rational choice.

Leathers and Foster present an explanation of the failure of these small subsistence farmers to satisfy food needs. The intention of the examples is to show that subsistence farming *never could* produce enough food. They cite a study from Ghana, arguing that yields are insufficient and that family labour is insufficient. Average yields of maize were between 0.6 and 2.7 tonnes per hectare. If a Ghanaian required all their calories from maize (say 2,400 per day) they would need a cropping area of 0.1 to 0.4 hectares – because the annual food needs per person are 0.24 tonnes of maize:

> We can see how a farm of 1–2 hectares might be barely enough to provide a subsistence diet for a family, and we can see how precariously the family's

> food security might rest on the hope of good weather and freedom from pests and diseases.
>
> (Leathers and Foster 2009: 210)

Let me examine this argument. At 0.6 tonnes per hectare, you would need a cropping field of 2.4 hectares to feed a family of six (with 0.24 tonnes of maize each). It is certainly true that many African rural households do not have 2.4 hectares of cropping land. For the poor, one hectare is more typical. Yet using organic methods you could readily improve yield to at least 2 tonnes per hectare (Pretty 1999). So, on 0.72 hectare you could grow enough maize to feed six people. To have a year's supply in reserve, you would need 1.44 hectares. While one hectare of cropping land is pretty typical for the rural poor of Africa, there is usually more village land available that is at present being used to graze cattle – owned by the richer households. Distributing even some of this would ensure adequate cropping fields for subsistence in most of Africa.

Leathers and Foster back up this discussion with an assessment of the amount of labour required to produce maize in this Ghana site:

> The farmers in this study worked between 1,900 and 4,050 days per hectare. One farmer in the study worked 40.5 hours on a 0.01-hectare experimental plot, and produced 10 kilograms of maize … In order to generate 2,400 calories per capita per day, he would need 27 such plots (0.27 hectares), requiring 1,094 days of labor per year … This gives us a clear indication of how undernutrition can coexist with subsistence agriculture.
>
> (Leathers and Foster 2009: 210)

Taking the first sentence of this, a family of six could manage one hectare by doing an amount of days per hectare falling between these extremes ($6 \times 365 = 2{,}190$ days). With a yield of two tonnes per hectare they would produce enough food on 0.7 hectares. Yet this time study research is quite implausible. When I have lived in villages and gone to visit the cropping fields, I have usually found that only a few of the households with cropping plots were working the land at any one time. At certain times of the year families do work very long hours, planting, weeding or harvesting. Yet in much of the year the fields look after themselves.

The authors go on to cite a participant of this study who owned two bullocks and a cow. He was able to work fewer hours (doing more with his animal traction) and to get a higher yield (using manure). This farmer is calculated to need only 200 hours to grow sufficient food for his own consumption (Leathers and Foster 2009: 210). This example is of a piece with most suggestions about how the rural poor may improve their situation – by adopting the practices of their rich fellow villagers. While Leathers and Fosters note the prevalence of subsistence agriculture, they cite research which suggests it could never be viable. These two claims cannot both be true.

Policy suggestions from mainstream economists

Raising the incomes of the poor

Leathers and Foster begin their analysis by looking at policies which raise the incomes of the poor and enable them to buy more food. The route they favour is economic growth in the private sector – secured through the removal of government intervention, the 'Washington consensus'. Deregulating trade; privatizing government assets; cutting taxes and cutting spending. Property should be privately owned and available on the market, enabling farmers to take on loans, with their farms as collateral (Leathers and Foster 2009: 275). The authors cite the success of globalization. Comparing Africa to South-East Asia, incomes per capita were similar in the 1970s. But by 1997, they were three times higher in South-East Asia. This difference is associated with the greater participation of the South-East Asian countries in international trade – between 1985 and 1995, their exports grew at a rate of 12 per cent per year, compared to only 3 per cent per year in Africa. Under-nutrition fell in Asia from 41 per cent in 1970 to 12 per cent in 2002. By comparison, under-nutrition in Africa only dropped from 36 per cent to 32 per cent (Leathers and Foster 2009: 278–279).

There are a few problems with this argument. Asian countries did not make these achievements by following the Washington consensus – there were very significant government interventions in all these countries (Chang 2002). To take South Korea as a key example, from 1949 to 1955, the government appropriated large holdings from landlords and ensured that ownership was limited to three hectares, that those who farmed the land had to own it and that farming land could not be leased out (Kwon and Yi 2009: 774). Despite policies for liberalizing trade and cutting government spending in African countries, under-nutrition is still at alarming levels. While economic growth may reduce hunger, it clearly does not eliminate it, with 12 per cent in Asia remaining hungry. What is the best policy for that 12 per cent? Big increases in the income and nutrition of the poor in Asia are far from universal. They are most marked for China, where the removal of statist inefficiency has reshaped the economy. Other parts of Asia have not done so well – South Asia has enormous problems with malnutrition despite economic policies remarkably similar to the Asian Tiger economies. Where lessons for Africa are concerned, the most interesting refutation is that given by Hoogvelt (2001; see also Mather and Adelzadeh 1998; Timmer 2005). There is a limit to the amount of exports from developing countries that can be absorbed by the rich countries. By getting in first, these Asian countries have cornered that market. This note of caution is particularly relevant to agricultural commodities – there is a limit to how much coffee can be consumed. Competition between developing countries has seen the prices of luxury agricultural exports plummet as new producers enter the market. Whole villages of coffee, palm oil, sugar, cotton, cacao and the like have been rooted up (Mortimore 1998).

Timmer (2005) explains various features of the African situation that prevent the rural poor from taking up this export led route out of poverty. On smallholdings

without huge capital investment it is difficult to meet the quality requirements and quantitative predictability required by international food buying companies. These requirements are way beyond the capacities of farmers without much education and without the money to buy inputs. The rural poor in Africa are mostly in villages a long distance from coastal ports, without suitable roads to transport produce where it might be assembled, packed and sent overseas. Governments in Africa do not have the funds to make these investments, and international bodies are intent on cutting their spending.

A succinct refutation of the argument for economic growth as a solution is the following. Given improvements in labour productivity (with new machinery) and given increasing population, the economy needs to constantly grow – just to soak up the extra employment required to absorb these changes. In South Africa, the economic growth rate required to prevent unemployment from *growing* is actually 6 per cent of GDP per annum (Reilly 2006). It is very rare for the South African economy to meet this growth rate and it is one of the most successful economies in Africa. The failure of the African countries to reduce rural poverty relates to these parameters. The economy is not growing at a sufficient rate to reduce rural unemployment. In South Africa the rate of joblessness (those who are unemployed and those who have stopped looking for work) was 36 per cent in 2017 (Gumede and Mbatha 2017). The formal rate of unemployment (the narrow definition) was 28 per cent in the country as a whole and 52 per cent in rural areas (Davies 2012; Gumede and Mbatha 2017) – meaning that the real rate of unemployment in rural areas must be close to 70 per cent.

Leathers and Foster go on to look at typical welfare state measures to raise the incomes of the poor.

They oppose income redistribution. Taxing the rich and giving money to the poor will just raise the price of basic foods – as the poor demand more the price will go up. This is a strange argument coming from two economists. Surely an increase in the price of basic foodstuffs would lead new players to enter the farming industry. In South Africa, where pensions have funded old people and mothers of young children, there has been no escalation of cereal prices coming out of that extra demand. The real story is quite complicated. Cereal prices are in fact set by US producers – at such a low price that without government protection, South African farmers cannot compete. While commercial farmers have abandoned cereal production, the pension system has saved many from starvation, using their welfare payments to purchase cheap US imports!

The second welfare state policy they discuss is minimum wages. According to Leathers and Foster the problem with this is that owners of capital will substitute machinery for labour, employing fewer workers. Whether this is necessarily a problem is another matter. Keynesian economists do not believe that governments should rely on the whims of investors to supply adequate employment. Instead, governments need to step in to fund projects to ensure full employment (Connors and Mitchell 2013).

The third welfare state policy they consider is land reform. They argue that land reform is likely to take land away from successful commercial farmers and give it

to less efficient producers of food – a welfare benefit to the rural poor but a problem for the poor who are buying food. This argument must be a joke for the region of Africa considered in this book. Most commercial producers are not producing food for the poor, but instead run game farms for tourists or produce luxury goods (tea, coffee, sugar, beef, chocolate, tobacco, cotton) for wealthy consumers in the rich countries. Targeted land redistribution could take place without any impact on food production for national consumption. The aim would be to maintain profitable large farms producing food for national consumption and to redistribute some of the less profitable privately owned land to smallholders – who want to grow food for their families and add to their income with some surplus production.

While the arguments of Leathers and Foster may not add up, they are a very good guide to the thinking of mainstream economists and the government bodies which take their advice. Given that these neo-liberal economic ideas are likely to *continue* to dominate state policy, what are the options for non-state actors?

Government subsidies to lower food prices

Leathers and Fosters condemn policies which artificially depress prices so the poor can afford food. They maintain that such policies can damage the profitability of farming, reducing the incentives for local farmers. One example is Egypt where retail prices for cereals were set by the government at 37 per cent of the world retail price. Wheat was sold in subsidized government stores. Average calorie consumption exceeded nutritional requirements even for the poorest 12 per cent of the population (Leathers and Foster 2009: 309). Despite these encouraging outcomes, Leathers and Foster are largely critical. The government was spending 17 per cent of its budget on food subsidies. They were using scarce foreign exchange to feed the poor, when they could have been investing in industrial start-ups. Egyptians were getting wheat so cheaply that they were over-consuming it. This argument is backed by an argument to show that the policy was damaging to society.

> Because of the depressed price of wheat, Egyptians eat more wheat than they would if they were paying the world price. A loss to Egyptian society associated with this overconsumption results because government pays more for wheat bought at world market prices than Egyptians are willing to pay for that wheat.
>
> (Leathers and Foster 2009: 310)

This is a tautology of economics. It says nothing about whether this policy worked or not. It clearly did work. Poor Egyptians were eating more wheat than they could have afforded at world prices. There was a loss to the Egyptian government because they had to pay money for this imported wheat. Egyptians would not have bought the wheat at world prices. The scenario in which *they* paid for the wheat and the government avoided the expense is null and void. Was this policy really ‘a loss to Egyptian society’?

Overall, Leathers and Foster argue that such programmes cost money that could be better spent. Subsidy and price controls in Africa have led countries into debt. As they sought loans to pay off these debts, the IMF made ending the subsidies a condition of their loans. Results were mixed. In three of four African countries where this took place, the number of people who were undernourished declined, while in the other one (Zambia) it increased. Leathers and Foster see the failures of these programmes as rooted in corruption, mismanagement, the cost of state marketing monopolies and so on (2009: 310–311).

My reservations about these arguments are as follows. While this expenditure was certainly part of what led governments into debt, it was only one aspect of the total situation, for example 10 per cent of the budget in Zambia. In the Zambian case, the debts were incurred as the international price of copper fell. The government had relied on taxes on copper and were caught short with projects they could no longer afford. Whether this level of debt was truly a 'problem' depends on your economic theory. From the point of view of many economists, such debt is quite viable, so long as government funded programmes use up extra capacity in the economy (Connors and Mitchell 2013). It may well be that corruption and mismanagement hampered these policies, so that money was spent without relieving food insecurity. Yet better managed projects might have worked well enough.

From the point of view that will be taken in this book, the important issue is not whether these welfare state measures could have worked and made sense at the time. The significant issue is that international economic organizations (the IMF and the World Bank) were able to dictate conditions to developing country governments and end these programmes. They are unlikely to be revived. The poor need an alternative that is politically viable. Since at least 1980, the World Bank and IMF have imposed these neo-liberal conditions on governments in Africa with the aim of stimulating economic growth. There certainly has been some economic growth. However, where the rural poor are concerned, this economic progress has not made a huge dent in food security problems. They are still very much in evidence.

Redistribution of food – the inefficiency of subsistence

Leathers and Foster consider an argument posted on the *Hearts and Minds* website. If people in the United States were to eat 10 per cent less meat, it would free up 12 million tonnes of grain, enough to feed 60 million people (2009: 324). As economists, they point to a number of flaws. If a section of the US population reduced meat consumption, the price of meat would fall. Half of the meat the altruists did not buy would be purchased by those who could now afford meat. The world price of grain would fall with less demand from the meat industry. Farmers would grow less grain. With cheaper prices the rich world and the rich of the developing countries would eat more grain. In other words, the normal processes of the market would undermine an attempt to free up grain for the poor by eating less meat. Maybe a proposal like this should be implemented by