

Chickens and Beer:

A recipe for agricultural
growth in Mozambique

Teresa Smart & Joseph Hanlon



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By Teresa Smart and Joseph Hanlon

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Table of contents

1. Introduction	1
2. Changing roles of investors and government	10
3. Who are the small and medium commercial farmers?	17
4. How did soya create emergent farmers?	25
5. Making money farming in Manica	35
6. The maize conundrum	45
7. Chickens and beer on the road to growth	53
8. Contract farming - way forward or dead end?	67
9. Attitudes are changing - slowly	74
10. Learning from history	78
11. Backing emergent farmers to end rural poverty	83
The authors	90
Acknowledgements	91
Acronyms and abbreviations	92

Currency

The Mozambican currency is the Metical (pl Meticais), abbreviated MT.

Rates of exchange in early 2014 were:

\$ 1 = USD 1 = 1 US dollar = 30 MT

£1 = 1 UK pound = 50 MT

€1 = 1 Euro = 42 MT



Women selling sacks of maize and soya in a rural market in Lioma.

1. Introduction

Rows of combine harvesters marching across fields of grain have been the vision of world leaders from Josef Stalin in 1929 to Barak Obama in 2012. In the socialist era in Mozambique, President Samora Machel promoted industrialised state farms, including a 400,000 hectare (ha) cotton plantation. In the post-2000 capitalist era, Brazilian and European investors are trying to establish giant private farms – often on the land of the old state farms. Politicians and investors agree that industrialised farming is the key to food production and ending poverty – the only difference between now and 35 or 85 years ago is who runs the farms. Then it was the state; now it is private agribusiness.

Since independence government has pursued a dual strategy, often with donor support. On one side it has tried to support so-called "subsistence" family farmers. The idea is to keep them on their small plots, but increase production and productivity to reduce hunger and poverty. On the other side, land would be made available to encourage large scale agricultural investment for the industrial production of food and export crops.

There is only one problem: it does not work. Despite the dreams of "modern" industrial agriculture, few plantation investments have succeeded in Mozambique since independence. Neither state nor private management has made new giant farms successful. Indeed, throughout Africa, most large farms have been failures. The World Bank notes that "experience with establishment of large farms in the course of history has been largely negative"¹, and that "there is little to suggest that the large-scale farming model is either necessary or even particularly promising for Africa."²

And on the other half of the dual strategy, rural poverty is not decreasing. Schools and health facilities have made dramatic changes, but rural Mozambicans remain desperately poor. The typical rural family farms only 1 ha, using only a hoe and with no improved seeds, fertiliser, or irrigation.³ The typical rural Mozambican family has a cash income of less than 3400 MT (\$113) per year – for the entire family.⁴ That is 65 MT per week for all the family spending – food and

¹ Klaus Deininger and Derke Byerlee, "The Rise of Large Farms in Land Abundant Countries: Do They Have a Future", *World Development*, 40(4), p 701. (*World Development* is a World Bank journal.)

² World Bank, *Awakening Africa's Sleeping Giant*, 2009, p 8.

³ IAI (Inquerito Agrícola Integrado), 2012, Ministério da Agricultura.

⁴ IAI gives a median cash income of 3382 MT for a rural family, which averages five people. But the range is very wide – provincial medians range from 1523 MT in Tete to 37,000 in Maputo province. The "median" is the half way point between the largest and smallest, the point at which half of people have higher income and half have lower, while the "mean" is found by adding up all incomes and dividing by the number of people. The mean will always be larger because the higher incomes add more to the total income pool. For

cooking oil, clothing, medicines, and school costs, as well as any unusual expenditure such as funerals. Newly educated young people flee to the towns, unwilling to subsist as hoe farmers like their parents.

Neither huge nor tiny

Mozambique needs to use its land more intensively, to produce more food and export crops and create more jobs. Despite its huge agricultural potential, Mozambique is a net importer of agricultural products.⁵

The Ministry of Agriculture admits "rural poverty is largely due to limited agricultural development, limited access of markets, and the weak productivity of food markets"⁶ Mozambique needs a green revolution. And that requires modernisation. Mozambicans cannot continue to farm in the same way as their great grandparents.

The one rural success has been the growth of a group which had neither government nor donor support – small and medium commercial farmers. Recent surveys show that there are 68 000 farmers with sales of more than 17,000 MT (\$567) per year. Although they grow much of their own food, they produce primarily for the market, and are creating rural jobs and boosting the rural economy. This group has largely arisen in the two decades since the war. Tobacco has been the biggest driver, followed by cotton, and farmers of these two crops have grown with the support of the large foreign trading companies. But many others have pulled themselves up by their own bootstraps and have become commercial farmers of maize, beans, oilseeds, cattle and vegetables. This group has been able to expand beyond the normal tiny farm, typically to 3-20 hectares, and is using fertiliser and other technology. These farmers have become the dynamic sector of the rural economy.

The median farm size in Mozambique is 1 ha. At the other end of the scale is the colonial and new plantations, of 5000 ha or more.⁷ The dual strategy is supporting the tiny and the huge. The last five years have seen a slow change, with a few donors, a few senior government officials, and some new foreign investors realising that middle farmers offer a viable alternative. In our fieldwork in 2012 and 2013 we saw a whole range of new crops being developed by a new group of commercial farmers, often on contract, who have slowly expanded their farm and begun to use more modern inputs and hire labour. Some are growing soya for chicken feed, or raising the chickens on contract. Others are growing cassava to make the new Impala beer. Thus the "chickens and beer" of the title of this book point to an alternative way forward.

There is no formal definition of a "small commercial farmer", so we have chosen to say that they are anyone who farms mainly for the market (and probably grows much of their own food as well) and has gross sales of over five times the median cash income, or 17,000 MT per year. For field crops such as maize and soya, a "small commercial farmer" will have 3 to 20 ha. For intensive crops including bananas and horticulture, commercial farms can be smaller, and a half hectare enough. We take a "medium commercial farmer" as one with cash sales over 40,000 MT per year, which for field crops requires 20 to 200 ha. In the next chapter we estimate that there are 51,000 small commercial farmers and 17,000 medium commercial farmers in Mozambique. When we write of "commercial farmers" we mean both small and medium commercial farmers. Finally "emergent farmers" and "middle farmers" are also sometimes used to mean small and medium commercial farmers.

the "typical" person or family, we take the median, because that is the person or family standing in the middle. We do not think that the IAI is accurate enough to be precise, so we round the median cash income to 3400. For exchange rates, we use 30 MT = \$ 1 and 3 MT = Rand 1. Finally, note this is **cash** income. When the government or UN calculates income they estimated the "value" of the food produced by the family and consumed by it. If the price of maize rises, then this "imputed income" of the family also rises, even if they eat the same amount of maize, because that maize they ate was more valuable. For most rural families, cash is only a small part of their total official income.

⁵ Plano Estratégico de Desenvolvimento do Sector Agrário 2011-2020 – PEDSA, Maputo: Ministério da Agricultura, 2011 p 5.

⁶ Plano Estratégico de Desenvolvimento do Sector Agrário 2011-2020 – PEDSA, Maputo: Ministério da Agricultura, 2011 p 5

⁷ Defined more precisely in chapter 3.

Nearly all commercial farmers are families or individuals. But some are companies, groups, associations and cooperatives.

Jobs, motorcycles and role models

In two decades of writing about post-war development in Mozambique, we have seen that the most consistently expressed need has been for jobs. Youth unemployment is now a problem in the entire world.⁸ "Strong economic growth has not turned into poverty reduction in Mozambique due to stagnation in job creation," a recent study by the UN University-Wider in Helsinki says. It continues: "A fundamental challenge to job growth in Mozambique is stagnant productivity in the agricultural sector. Most Mozambicans earn a living on small farms, which generate limited income."⁹ With three quarters of Mozambicans still in rural areas, job creation must be rural. But as the World Bank points out, "large farms' ability to productively employ labour is often very limited, much below that of small holder agriculture."¹⁰

Few workers are employed by 1 ha farms, but small and medium commercial farms are much larger employers of labour. Compared to plantations, smaller farms are more labour-intensive and less capital-intensive. Smaller and fewer machines for ploughing, harvesting and threshing mean more people are used; weeding is often by hand rather than with herbicides. Even where chemicals are used, big farms will do aerial spraying, while small farms use workers with backpacks. This, in turn, stimulates the local economy, because farmworkers spend their money locally, while big investors are more likely to be importing machinery and fuel, sending the money out of the local area. Thus more labour intensive small commercial farms promote rural development and help to reduce poverty.

Jobs need to be thought about at two levels. At one level is the demand for "good" jobs, which are permanent and pay an acceptable wage. At another level are the extremely poor rural people who are desperate for cash and look for day labour (*ganho-ganho*). We look at the two separately.

The huge success of the government in expanding education has created a problem with a new generation of young people who have some schooling but cannot find a job. They may have only sixth years of primary school, but compared to their illiterate parents, they see themselves as educated. And they refuse to follow their parents into hoe farming, which they see as back-breaking and boring, with little return. So they migrate to the towns to join thousands of other young people. The response of policy makers has been that young people must create their own work through self-employment. And the cities and towns of Mozambique are full of people in the informal sector, selling whatever they can and living on the margins of legal society.

Across the border in Zimbabwe, agriculture is seen as a way to make money. Small land reform farmers with 6 ha can earn more than a school teacher or civil servant, and bigger farmers can be relatively wealthy. In research for our recent book *Zimbabwe Takes Back its Land*,¹¹ we were impressed by the way farming is seen as a good way to earn a living and, for an elite, agriculture was seen as a means of accumulation. Two factors seem important. First, farming is still hard work, but it is more modern. Ploughing is done with cattle or tractors, not hoes, and ploughing services can be hired at 2000 MT per hectare; fertiliser, improved seeds, and agrochemicals are available; and there are assured markets. Second, there are role models. For the elite and senior officials, there are friends who are making significant amounts of money from farming. For ordinary working people, there are friends and family who have turned their 6 ha into income earning farms that allow them to build a nice house and support their family in comfort. Farming in Zimbabwe need not be backward, and can be the equivalent of a good job. In rural Mozambique this is much less common, but is beginning to happen with small and medium commercial farming.

⁸ Alcinda Honwana, *The Time of Youth: Work, Social Change, and Politics in Africa*, Kumarian Press, 2012.

⁹ Sam Jones & Finn Tarp, "How to promote sustainable jobs in Mozambique", *WiderAngle Newsletter*, 29 November 2013, http://www.wider.unu.edu/publications/newsletter/articles-2013/summaries/en_GB/11-12-2013-RA-2/

¹⁰ Klaus Deininger and Derke Byerlee, "The Rise of Large Farms in Land Abundant Countries: Do They Have a Future", *World Development*, 40(4), p 712.

¹¹ Joseph Hanlon, Jeanette Manjengwa and Teresa Smart, *Zimbabwe Takes Back its Land*, Sterling, VA, USA: Kumarian and Auckland Park, South Africa: Jacana, 2013.

Consider Lioma, in Zambézia province. Some farmers now come into town on motorcycles – to shop or at the weekend to go to the disco. They are earning more money than the young people in the informal sector of the small town. They are growing soya to sell as feed for local chicken producers, and two years ago earned enough to buy a motorcycle. In the district town Gurué, there is an expanding market that stretches along the ridge beside the road toward Lioma. There is no longer just a row of stalls selling bicycles and spare parts, but now stalls with motorcycle tyres and parts. Rural electrification means that smaller towns have electricity, allowing night school and discos. And the third mobile telephone company, Movitel, installed its masts in Lioma and now small farmers have mobile telephones. Farming is never easy or secure, but suddenly in Lioma there are farmers who are living comfortably, and not just scratching subsistence from the soil with a hoe. In Chapter 4 we tell this story in more detail. But these new soya farmers are role models, proving that it is possible to earn a good living from farming.

Our farmers may have motorcycles, but they do not have tractors. Sometimes they can hire one, but often land is opened by teams of people with hoes. *Ganho-ganho* is typically paid by the sack harvested or line weeded or hoed, and the rate is often only 50 MT (\$1.67) per day, less than half the minimum wage.¹² This may seem low, but impoverished people from neighbouring districts are flooding in looking for work at this rate. In the short term, even creating bad jobs reduces poverty. This is not sustainable, and a central theme of this book is raising the technology and production levels of small and medium commercial farms and thus creating demands for labour, increasing wages, and improving working conditions.

Tiny farms are not the answer

Donors and government regularly talk of supporting tiny farms, and they talk of "subsistence" farmers who produce their own food and are largely self-sufficient. This is a myth. Most farmers do not produce enough food to feed their family for the year and they must buy food or go hungry. That means they must find some cash income - by selling crops, obtaining money from family in the city, doing day labour (*ganho-ganho*) for other farmers, or making charcoal or beer for sale. No farmers are self-sufficient; all are integrated into the market, albeit in very unfavourable conditions, and try to find at least some work. "Many producers in the family sector participate in the market in a highly unfavourable way: selling quickly after harvest for very low prices, then returning to buy the same products during the hunger period, but at very high prices" notes the PEDSA (Plano Estratégico de Desenvolvimento do Sector Agrário).¹³

Family farms are only 1 ha because that is all the land a family can open with hoes in a year. Indeed, for the many families so short of food that they do not eat enough calories to work the entire day, even 1 ha can be difficult. Risk is the other issue. If the crop fails due to weather or pests, the family goes hungry. This makes peasants conservative, following traditional practices they know are most likely to produce something at the end of the season.

Many donors follow a strategy of leaving the family farmers on their 1 ha, but trying to raise their production – through improved seeds, irrigation, post-harvest conservation, and sometimes various forms of conservation farming. But who pays and who carries the risk?

With improved seeds and fertiliser, maize yields can be doubled, making a major improvement to family nutrition. But this would require improved seed, costing perhaps 500 MT for an average small farmer, and two 50 kg bags of fertiliser, costing 2500 MT. For a typical family, this is most of their annual cash income. Where will the money come from? And it is a huge risk – if the rains fail, this money is lost. Some countries, including Malawi and Zambia, subsidise the fertiliser to make it easier to buy, leading to a large increase in maize production. In Mozambique, people do know that fertiliser is useful – tobacco farmers often take some of the fertiliser supplied to them by the tobacco companies and put it on their maize or on other crops, and also when they rotate crops gain some residual fertility in the former tobacco field. But few can afford to buy two bags of fertiliser.

¹² The agricultural minimum wage in 2013 was 2500 MT per month, 114 MT (\$3.80) per day.

¹³ Plano Estratégico de Desenvolvimento do Sector Agrário 2011-2020 – PEDSA, Maputo: Ministério da Agricultura, 2011, p 20.

All the programmes suggested by government or donors involve the least expensive part of the package – advice, market information (for people who in fact sell very little), and sometimes free or subsidised seed. None offers the capital that would allow families to boost their production.

In effect, keeping family farmers small and trying to increase their production dooms them to poverty. No family can feed itself and earn a bit of cash from 1 ha.

Mozambique's first agriculture minister, Joaquim de Carvalho, commented: "I think the big problem in agriculture continues until today and is how to raise the level of peasant income and turn them into what we might call 'commercial farmers'."¹⁴ It is a first step toward a new thinking.

Plantations are not working

One reason to keep peasants on small pieces of land is the hope that unused land can be given to big investors. The belief in "modern" large scale industrial agriculture remains strong, and each new investor says "we know that everyone else has failed, but we have the right answer and our project will work." Promoting tens of thousands of medium farmers is complex and difficult; it is much easier for officials and ministers to believe each new investor who says "leave it to us to reduce absolute poverty". Donor agencies increasingly want to promote investments by their national agribusinesses. And foreign investors usually offer a part share in new investments to members of the Mozambican elite.

But if tiny farms are not the answer, neither are plantations. Procana, Sun Biofuels, and Prio Foods are the best known of the spectacular failures of foreign plantation investments in Mozambique in recent years. But it is not a case of socialism versus capitalism; many of the large state farms of the 1970s proved to be unmanageable. A few of the state farms were becoming productive, and had the 1981 war not intervened, might have been successful. Similarly, although no post-war plantation investment has yet become profitable, it is possible that a few large soya, timber and cattle farms now being developed could become profitable. But the failure rate of plantations has been higher than that associated with small businesses.

It is always assumed that bigger, mechanised farms are more efficient and productive than small farms. But several decades of research shows that for farming, there are few "economies of scale", and that smaller farms are as productive and efficient as large ones.¹⁵ This often surprises policy makers, who assume bigger must be better. This is discussed more in the next chapter.

There are productivity gains from bigger machines – the famous rows of combine harvesters – and more use of modern inputs and agrochemicals. But the smaller commercial farmer has a management advantage. While the big farmer will plant thousands of hectares of a single crop, the smaller farmer knows every corner of her farm and may choose to plant a half hectare of horticulture in the wettest corner of the farm and plant maize elsewhere, or can do various intercrops which raise overall productivity. Labour management is key – family members work harder and with more care, especially at key points such as during harvest – and a small farmer has much more personal contact with hired labour and can supervise their work more closely. Also, small and medium commercial farmers are farming their own land and can move more cautiously, without pressure from investors and creditors, and expand more carefully. Finally, a good farmer will experiment – a half hectare of a new variety of maize, or a trial section of an entirely new crop such as soya – which allows more rapid adoption of new technologies and response to markets. Thus, the gains from closer management of a small or medium commercial farm often outweigh the economies of scale of a giant farm.

New thinking needed on key issues

After nearly 40 years since independence, it is time to accept that the dual strategy has failed. Big new plantations are not working and so-called "subsistence farmers" remain poor. It makes sense

¹⁴ In an interview with João Moscat, published in João Mosca, *Políticas Agrárias de (em) Moçambique (1975-2009)*, Maputo: Escolar Editora, 2011, p 36. In our book we do not look in detail at Mozambique's agricultural history, and instead refer readers to this excellent book by João Mosca.

¹⁵ Klaus Deininger and Derke Byerlee, "The Rise of Large Farms in Land Abundant Countries: Do They Have a Future", *World Development*, 40(4).

to look now to the middle farmers to reduce poverty and create jobs. But that will require rethinking in five key areas.

Land

Much of the debate revolves around land. Mozambique has large amounts of land which could be farmed more intensively and produce much more. But how and by whom? Underlying the dual strategy is the belief that if peasants could survive on their 1 ha, then there would be millions of hectares of farmland available to foreign and domestic investors who would create modern plantations and end rural poverty. Donors and government policy makers need to look more closely at the evidence that small and medium commercial farmers can be more productive and do more to reduce poverty.

It is noteworthy that the two of the three biggest agricultural exports, tobacco and cotton, are farmed by small and medium commercial farmers, not big foreign owned plantations.

Markets

The extreme free market ideology of the 1990s retains a hold on both donors and policy makers, and we will argue that supporting medium farmers requires intervention in the market. There is a tendency to ignore that the agricultural successes have all required market intervention - the two tobacco companies and ten cotton companies have monopoly rights to entire districts, while the giant sugar industry is protected against foreign competition, and new foreign investors gain government support and benefits less available locally.

Subsidy and government support

The jump from impoverished hoe farming to commercial farming is enormous and requires substantial support. For the farmer it means dominating new technologies and learning how to be a business person, able to calculate costs and profits, to manage labour, and to plan ahead. It requires capital or credit, a reasonably sure market, some sharing of risk, and business and agricultural training – little of which is available to small farmers in Mozambique.

In most other countries, support comes from extension services, marketing boards and agricultural banks which are run by government, either directly or through contracts and subsidies to the private sector. In 2012 the European Union spent €83 billion (3,400,000,000,000 MT) on agricultural subsidies – this represented €483 (20,000 MT) per hectare, and also represented 22% of the income of the average farmer.¹⁶ International regulations under the World Trade Organization (WTO) only permit rich countries to subsidise agriculture, and not poor ones. We will show in Chapter 7 that this support was essential to the development of commercial agriculture in the now developed countries.

Small business

In other economic sectors, small and medium enterprises (SMEs) are recognised as central to economic development, creating jobs and promoting innovation. Small and medium commercial farmers are small and medium enterprises (SMEs) which should be supported to use more of the land to raise both production and productivity.

Starting a new business is risky. In developed countries, up to half of new SMEs fail in the first four years.¹⁷ In the United States, 44% of new agribusinesses fail in the first four years.¹⁸ Standard Bank estimates that 40% of new businesses in South Africa fail in the first two years.¹⁹ It is not quick or easy. But these statistics show that more than half of new businesses succeed and

¹⁶ Eurostat. The South Centre estimates total subsidy at more than double this, \$ 252 billion (7600 billion MT) – "SDGs: Food security and sustainable agriculture", *South Bulletin*, 18 June 2013, Geneva: South Centre.

¹⁷ Peter Unwin et al, "Small Businesses in the UK: New Perspectives on Evidence and Policy", University of Westminster, 2008, [http://www.fsb.org.uk/policy/images/fsbwestminster01%2012%20\(3\).pdf](http://www.fsb.org.uk/policy/images/fsbwestminster01%2012%20(3).pdf)

¹⁸ Statisticbrain, "Startup Business Failure Rate By Industry," 2013, <http://www.statisticbrain.com/startup-failure-by-industry/>

¹⁹ Standard Bank, "Supporting SMEs in South Africa," 2013, <http://sustainability.standardbank.com/socioeconomic-development-overview/enterprise-development/supporting-smes-in-south-africa/>

go on to create jobs – and, as we note below, a much better record than the new plantations in Mozambique.

Some support for small and medium commercial farmers should come from donor agencies. However, they are under ever heavier pressure at home to demonstrate success and prove "value for money". Donor agencies fear that parliamentary committees and the media in their capital will take a contradictory line, on one hand saying more support must go to the private sector, but on the other saying that spending 40% of the donor funding on "failed" projects is a scandal. Donor agencies must make the case that support for the private sector means supporting some businesses that do not succeed, and that donors do not have the capacity to pick the winners.

Speed

Ministers, donors and investors all want quick results – something to show within two or at most three years. Unfortunately, growing commercial farmers is like growing trees; it takes a long time. In Gurué we found that it took seven years of regular, hands-on support, as well as a guaranteed market. But it did eventually work, and, as chapter 4 shows, there are now emergent farmers producing soya. Four decades have been wasted searching for quick answers through plantations and "subsistence" farmers; perhaps it is time to accept that there are no quick results in farming.

The debate is slowly changing

Quietly, with little publicity, change is happening. The World Bank, which had been a proponent of large farms, in two major reports, *Growing Africa: Unlocking the Potential of Agribusiness* in 2013 and *Awakening Africa's Sleeping Giant* in 2009, looked to medium farmers. The 2009 report is about the African savannah, which includes most of Mozambique. It looks at two alternative models, the Brazilian *cerrado* and northeast Thailand, and comes to the unexpected conclusion that Thailand and not Brazil is the appropriate model for Africa.

The *cerrado* is the tropical savannah of the central plateau of Brazil, which has poor and acidic soils and irregular rainfall. The region was transformed through Japanese aid which funded a development of very large scale commercial agriculture, particularly of soya beans and beef, during the Brazilian military dictatorship 1964-85. This apparent success was the driving force behind the Brazilian-Japanese ProSavana project in the Nacala corridor of Mozambique. But the World Bank does not agree. In a 2012 paper, World Bank researchers note that although the transformation of the *cerrado* "was a major technological success", it did little to reduce poverty.²⁰ And the 2009 report says "the Brazilian model of large-scale farming appears to have severe limitations in Africa."²¹ A 2013 report comments that "Brazil's dependence on large capital-intensive farms means that its success in agricultural growth has translated poorly into poverty reduction."²²

Instead of Brazil, both the 2009 and 2013 World Bank reports point to another model, northeast Thailand, where small and medium scale commercial farmers with 5-15 hectares led a transformation making Thailand the world's leading rice exporter.²³ Four policy choices were important:

- 1) Thailand promoted foreign investment in agro-processing, but forbids foreign investment in farming;
- 2) Government policy encouraged farmers to expand cultivated area;
- 3) There was heavy government investment, including successful attempts to reduce the price of fertiliser; and
- 4) A state bank lends to 95% of farmers.

So far, Mozambican policy has been closer to the Brazilian model, but there are divisions within the Ministry of Agriculture, and growing government links with Thailand might lead officials to look more closely at its agricultural experience.

²⁰ Klaus Deininger and Derke Byerlee, "The Rise of Large Farms in Land Abundant Countries: Do They Have a Future", *World Development*, 40(4), p 702.

²¹ World Bank, *Awakening Africa's Sleeping Giant*, 2009, p 10.

²² World Bank, *Growing Africa: Unlocking the Potential of Agribusiness*, 2013, p 21.

²³ World Bank, *Growing Africa*, p 20.

Another change is a growing acceptance of a government role in agriculture; even the World Bank now accepts fertiliser subsidies.²⁴ And at a meeting in December 2013, under Indian pressure, the World Trade Organization agreed to allow countries to buy food from poor farmers at higher prices and then sell to poor people at lower prices – benefitting the urban poor and subsidising poor farmers. Mozambique could follow this model.

In an era in which global value chains increasingly involve contracting and subcontracting, some large agribusinesses have realised that the hard work of farming can be subcontracted to local farmers. Some domestic and foreign agribusiness investors are recognising that small producers can be more efficient than big farmers, and are choosing not to have large farms. They are developing various new contract farming programmes for soya, chickens, bananas and other crops. A few donors are also now supporting contract farming projects. In chapters 4-6, we look at these new programmes more closely.

Government, too, is changing, albeit slowly. The 2011 *Plano Estratégico de Desenvolvimento do Sector Agrário* (PEDSA) suggests some important changes in attitude:

1) It sets a target of "increasing by 25% the cultivated area of basic food products" by 2020 – an important recognition of the need to increase area, and not simply productivity.

2) The PEDSA looks at the differences between what it calls small farms (less than 10 ha cultivated) and medium farms (more than 10 ha cultivated) and points to the need to "facilitate more differentiated interventions in response to the specific technological needs of the producer." This is an important recognition that commercial farmers need different kinds of support than other family farmers.

3) There is a recognition of lack of state support: "only cashew through cashew promotion institute Incaju benefits from a public structure that involves and supports farmers." Tobacco and cotton have private support from concession companies. No other crops have organized support.

4) For the first time in decades, PEDSA proposes "to establish a mechanism to support the price of food crops."

5) Foreign investment is never mentioned.

Looking forward

Plantations have consistently failed in Mozambique, while concentrating on so-called "subsistence farmers" is a recipe for continued poverty. If the dual strategy of supporting giant and tiny does not work, then it is time to pay more attention to the missing middle. Unfortunately, many donors, ministers and officials are still transfixed by the chimera of a foreign investor flying in and ending poverty as if by magic. In this book, we argue that the best way forward is to support small and medium commercial farmers to cultivate larger tracts of land. This is not an easy solution, but there are no easy solutions. Supporting tens of thousands of farmers is complex; different farmers and different regions have different needs. Subsidy and credit, guaranteed markets, help with business and farming skills, risk sharing, and regulation of contract farming will all be needed. Tens of thousands of farmers will need to believe that they can have a motorcycle, build a modern house, and send their children to school.

This requires a clear policy choice by government and the international community. If one-fifth of smallholders significantly expanded their area, they would occupy most of the underused land. There would be little farmland left for large investors. There will be land competition between large investors and small and medium commercial farmers. Ministers can no longer make sweeping statements about the land available to all potential users, foreign investors as well as local farmers. Choices will need to be made about the best uses and users of prime farmland.

The next chapter looks at how government and investors are changing. Chapter 3 looks at the new players, the 68,000 small and medium commercial farmers, and then looks more closely at Angónia, where one-quarter of those farmers live. Chapter 4 tells the soya story and in chapter 5 we move to the rich farmland of Manica. In chapter 6 we consider the new entrants in Nampula. In each of these chapters we also look at an issue triggered by the people we interviewed: mechanisation in chapter 3, the role of the aid industry and "international public sector" to make up for lack of support by the government in chapters 4 and 5, and new types of investors who do not want to farm in chapter 6. Chapter 6 also looks again at the scale issues raised by the ProSavana

²⁴ World Bank, *Growing Africa*, p xxiii.

project and the Brazilian experience. In chapter 7 we draw on international experience, both now and a century ago. And we ask if small and medium commercial farming can be expanded to less obvious crops such as trees. Much of the book assumes some forms of contract farming, and in chapter 8 we ask about rules for contract farming and the government's role as regulator. And we wrap up by calling again for support for small commercial and emergent farmers, to allow them to farm more land, grow more, create more jobs, and promote development.

2. Changing roles of investors and government

Agribusiness investors cover a wide range. Government and the international financial institutions are internally divided in their opinions. And all are changing over time. The rigid notions of 2000, which looked only at huge plantation investment and which adopted neo-liberal views that government had no role in the economy or agriculture, have been seen as failures, and there are now at least partial shifts in thinking. In this chapter we look more closely at foreign investors, at why plantation agriculture fails, and at the increasing use of contract farming. And we look at the return of government to economic and agricultural intervention.

Many kinds of agribusinesses

Many agribusinesses have invested in Mozambique. Madal and João Ferreira dos Santos are colonial companies with more than a century in Mozambique and large tracts of land. Others have largely grown in the post-war era. Illovo and Tongaat Hulett are large South African sugar companies which took over privatised sugar estates. Big chicken producers include the União Geral das Cooperativas (an important reminder that "commercial farmers" are not always individuals or companies, but can be groups as well), Mozambican businessman Abilio Antunes, Frango King (set up by a South African and a Dane), and Novos Horizontes which is a Zimbabwean producer that expanded over the border. Two of the biggest foreign agribusinesses, US-based Universal Leaf Tobacco and Singapore-based Olam, have in the past decade become major buyers and processors of tobacco and cashew, respectively, but do not grow either crop.

All of these are either established agribusinesses or newer investors slowly expanding in Mozambique. However, since 2000 there has been great interest in investment in land and farming in Africa, first triggered by dreams of huge profits from biofuels and other "green" investments, and then by the high price of food in 2008 and again in 2011 which led to warnings of global food shortages and thus spectacular profits from farming. In large part, this was one of the periodic investment bubbles that occur in capitalism, including the 1637 Dutch tulip mania, the 1720 British South Sea bubble, and the Brazilian Encilhamento of the 1880s up to the Dot-com bubble (1995–2000) and Spanish and Irish housing bubbles (2000–2008). Investors believe that rapid and inconceivable profits are possible, and some do make money before the bubble bursts. Today there is a still-expanding African land and farming bubble.

The investments come from the better-off and wealthy in the United States and Europe who typically put their money into joint investment funds, which normally promise high profits. Until the bank and stock market crash of 2008, investors in property in Europe seemed to be earning relatively high profits, so investors in Africa had to be promised even higher profits. Most of the investors and investment funds were new to Africa. Some European and US companies actually attempted to farm; they assumed they could transfer systems from their home countries, or buy the expertise they needed. Often they needed to borrow the money or attract new investors. Another group hoped simply to gain the land and plant a few seeds, and then sell out at a high profit. The skill of these entrepreneurs was purely to convince African governments to give them the land, usually by giving key people shares in the company and perhaps some money, and by making grand promises about involving local communities that they would never keep because they planned to sell out as quickly as possible.

So far, none of these new projects has succeeded in Mozambique. Sun Biofuels was a British company set up in 2006 which did grow more than 2000 ha of *Jatropha*²⁵ in Chimoio, but it went bankrupt in 2011 when investors refused to continue to fund it. A South African company, Grown Energy, obtained 15,000 ha in Sofala, and then sold the company for \$1.1 million to the Indian company Tata Chemicals. Prio Foods, set up in 2007, is a subsidiary of Martifer, a Portuguese company; it developed oil seed and biofuel farms in Brazil and Romania. It leased 24 000 ha of land from in Manica and Sofala from other companies, including a failed Lonrho

²⁵ *Jatropha curcas* is a semi-evergreen shrub or small tree. Its seeds contain up to 40% oil that can be processed to produce a biodiesel fuel. A variety is native to Mozambique where it is traditionally used as a hedge, and it was promoted both by President Armando Guebuza for small farmers and foreign investors on plantations, but has not proved successful.

plantation. It began in 2008, and as its website says, "with its diverse agricultural experience,"²⁶ expanded quickly. The project collapsed in early 2013, leaving thousands of contract farmers stranded, although in late 2014 its website still promoted the project under the heading "social responsibility".²⁷ The 2009 prospectus for investors in the Hoyo Hoyo soya plantation in Gurué promised a 41% rate of return and to be making a profit within two years. Such returns were impossible and did not happen; Hoyo Hoyo was later sold. Procana wanted to raise 97% of its capital from loans and promised to produce more ethanol from sugar than anyone had done in Mozambique; peasants were forced off land to give it 30,000 ha, but it collapsed.

Investors, whether they were the state in the 1970s or private investment funds in the 2000s, demand results quickly, within a year or two. This, in turn, leads to huge projects with very large initial investment and very rapid expansion. It is assumed that it is possible to fly in highly paid consultants and managers who will solve problems quickly. This occurred with eastern European experts in Mozambique in the socialist 1970s and is happening again with capitalist experts. There is more than a hint of racism in the assumption that white Europeans can fly in and quickly be better farmers than Mozambicans. They assume there is nothing to be learned from local people, who are, they think, backward. Despite ministerial claims of huge tracts of available land, it is quite hard to assemble large blocks, so most land that has been given to investors is the land of former state farms and former colonial plantations. In several areas abandoned colonial plantations and failed state farms have been replaced twice by failed private investors. Mistakes are made over again, as each new operator only later discovers the problems with lack of water or poor soil.

Developing a new farm, small or large, takes a decade. It takes at least this much time to build the knowledge of the land and climate, to use local experience, and to experiment and adapt. But investors are attracted with promises of rapid gains, and fund managers cannot wait a decade to turn a profit.

Big multinational companies do have advantages, but they do not relate to the actual farming. Global value and marketing chains are now tightly controlled by a few companies and the profit margins are higher for those companies which control the chains. They are also able to control quality and match supply and demand, ensuring markets. Bulk buying brings down costs; inputs such as fertiliser are significantly cheaper if they are bought by hundreds of tonnes instead of a few sacks. New supermarket traceability regulations in Europe require that wholesale suppliers be able to identify the farm on which fresh fruit and vegetables have been grown, and larger multinational companies have computer systems which can do that more easily. Finally, large multinational companies have access to cheap credit, often at interest rates one quarter of what Mozambican companies must pay inside Mozambique – if they can obtain loans at all. But these advantages relate to finance, processing and markets; none of these advantages of scale apply to the actual farming.

A few large foreign investors and agribusinesses are coming to understand the reality of African farming, and we will point to three types of investors later in this book. Most are not looking for plantations, but want to enter the value chain elsewhere. One group of investors is looking more toward trading and processing, often through contract farming. Another group is wealthy European family investors, who are creating something for the children and grandchildren; they do not need instant profits, and can wait a decade. This is sometimes called "patient capital". The third group tries to buy successful Mozambican businesses, letting local entrepreneurs do the first decade of hard work; chicken producer Frango King was bought in 2010 by a British investment company, African Century, that had only been established in 2008. Some of these new foreign investors are gaining support from international aid industry linked investment funds, such as Norfund, and others have support from local funds such as the Beira Agricultural Growth Corridor Catalytic Fund.

Three factors seem key for these new investors: willingness to work closely with local commercial farmers, a longer time horizon, and not having their own huge farms as a priority. We think the quick-profit plantation investors will not succeed in Mozambique and should not be supported, but we also see that these new types of investors can play an important role in promoting small and medium commercial agriculture, and we will look more closely at them in later chapters.

²⁶ <http://www.nutregroup.com/agricultura/mocambique>, accessed 12 September 2014.

²⁷ <http://priofoods.com/>, accessed 12 September 2014.

Why does sugar work?

We left aside a nagging question: If new plantations have been such a disaster, why has the revival and expansion of the colonial sugar sector been successful? Historically in Africa, two plantation crops have succeeded – sugar and palm oil. Both deteriorate quickly once harvested and must be processed within a day; thus it makes sense to have a large central processing plant surrounded by a plantation. It is notable that sugar is the one successful plantation crop in Mozambique, where planting, cutting and processing can be tightly controlled.

Sugar in Mozambique is interesting for two other reasons. First, it is the only protected agricultural sector. An import tax ensures that sugar cannot be imported at a price below the local cost of production; in 2012 the import duty added 90% to the price of imported raw sugar.²⁸ This was introduced in the 1990s and was permitted by the IMF because at the time the sugar sector was being privatised and the international sugar companies said they would not take over the Mozambican industry unless they were protected. At the same time, Mozambique wanted to protect the cashew industry, but was not allowed because only local capital was involved; without protection, the cashew sector collapsed. Thus, again, the advantage of scale of the big company is not related to farming, but to its power in negotiating concessions from government and the IMF.

The second notable thing about sugar is that the large plantations all date back to the colonial era and are managed by large traditional sugar companies. Although several new sugar plantations had been announced with much fanfare, such as Procana, none has succeeded. Indeed, as we noted earlier, few new plantations – socialist or capitalist - have succeeded since independence. There are many reasons for this, but one key seems to be the haste of new investors. By contrast, the existing sugar producers are experienced companies that have already learned that developing new farms takes time, and have been able to finance expansion internally, which has allowed them to expand slowly and cautiously.

Technology, money and contracts

The typical farmer still only uses 1 ha, with no improved seeds, fertiliser or irrigation. Fertility is maintained through shifting cultivation; a field is used for a few years and then left fallow to regain fertility. Perhaps the least noticed agricultural success of the past two decades has been tens of thousands of farmers who, instead of simply farming 1 ha via shifting cultivation, have moved to farm 4 ha or 6 ha, and use that land continuously. That requires mechanical land preparation – by tractor, by motor cultivator, or in a few areas by cattle – or paying for *ganho-ganho* labour to open the land with hoes. It means buying seed and fertiliser and hiring labour. And it requires selling enough each year to pay all the initial costs and still have a profit. This is a major step, which most farmers will not make, and others will try and fail. But 68,000 have made the leap.

Small farmers lack almost everything they need to expand – credit, assured markets, technology, affordable machinery and risk sharing. The median annual cash income per family is not enough to buy two bags of fertiliser and some seeds. Without support, few farmers are willing to gamble everything. So promoting medium farmers requires a support package from somewhere. World Trade Organization rules allow poor countries up to 10% subsidy, which would allow Mozambique to do more to support farming if it wanted to. Developed countries and Mozambique's neighbours see support as essential for agricultural development. So far Mozambique has said "no". More government support for commercial farmers is essential.

In practice, the main support for successful commercial farmers has come from foreign agribusinesses, particularly through contract farming. Contract cotton farming has a long history in Mozambique. But it is mainly a crop for 300,000 very small producers; only 3.7% of cotton is produced by associations and just 0.3% by small and medium commercial farmers.²⁹ The next big intervention was contract tobacco farming in the late 1990s. There are now 130,000 contract tobacco farmers producing for two companies, and Mozambique has become the fourth largest

²⁸ Dias P., "Analysis of incentives and disincentives for sugar cane in Mozambique," Technical notes series, MAFAP, Rome: FAO, 2013, p1.5

²⁹ Antonio Chamuene, Norberto Mahalambe, and Osvaldo Catine, "Summary of Production Trends, Cotton Research Status and Cotton IPM Experience in Mozambique", 2010, https://www.icac.org/tis/regional_networks/documents/africa_10/business_meeting/5_mozambique.pdf.

producer of burley (air cured) tobacco.³⁰ Tobacco producers earned 1500 million MT (\$50 million) in 2013, and tobacco companies through contract farming have probably done more to reduce income poverty than any aid project. The big difference with cotton is that tobacco can be much more profitable, and 15% of the tobacco farmers are small and medium commercial farmers.

Seed production has traditionally been on contract, and in the past five years there has been a range of new entrants promoting contract farming, including soya, oilseeds and chickens. Several donors now support companies promoting contract farming. This is propelling the growth of emergent farmers, and is discussed in later chapters.

There is a very wide range of farming contracts. In most cases, farmers make a commitment to sell part or all of their production to the contract company at a fixed price, and the contract company provides all the inputs – seeds, fertiliser, agrochemicals – as well as technical support and sometimes ploughing, threshing and even loans to hire day labour for weeding. The cost of these services (usually plus a surcharge) is deducted from the value of the crops sold.

At its best, contract farming benefits both parties. For the small farmer, all the key inputs are supplied on credit, which allows an expansion of production and potentially an increase in profit. The contract companies recognise that small farmers have a production advantage, and it also reduces their capital and running costs because they are not paying wages to farm workers. And both sides reduce their risks. If a crop fails due to bad weather or pests, the farmer loses the value of their family's labour, but not cash, while the contract company loses their expenditure on inputs but has not paid the labour costs. Thus when contract farming works, it gives a big boost to smallholders who want to become commercial farmers, because it provides the five things they need: a guaranteed market, credit, inputs, technical support, and risk sharing. With little state support, this may be the only way forward.

Andrew Cunningham of Novos Horizontes, one of the new contract companies, points to another role of contracts. He notes that in the US and Europe only a tiny portion of people who set up new businesses are truly entrepreneurial. Most new small businesses are linked to a larger company, starting with a contract or a franchise. "Why should Africa be any different?" he asks. In the US, more than 1 million businesses are franchises – including McDonald's. In Mozambique, Domino's and Mimmos pizzas, King Pies and Pick n Pay are franchises. Instead of starting a new restaurant or other business entirely from scratch, under the franchise system the small business person signs an agreement to open a "branch" of an established brand. The franchise company supplies a proven business, including technology, marketing, a well known trademark. and close monitoring; the small business person pays a fee and often must buy inputs from the franchise company. This is very similar to the contract farming system in agriculture, where the farmer still controls the farm, but under the close guidance of the contract company.

Contract farming and the growth of small commercial farmers is not without problems, however. This was starkly illustrated in 2013 by piles of unsold cotton in Niassa and Nampula, and by some Zambézia soya growers scurrying to find buyers. In both cases, contract companies did not have the money to fulfil their commitments to buy. Private companies, particularly those that are foreign owned and managed, are sometimes undercapitalised and can close, be sold, or have new managers at short notice. Several contract companies have been taken over by other international companies, which then changed policy. Thus a farmer may be offered a contract one year and not the next, as happened with seed growers in Angónia. Many companies try to squeeze their suppliers, and each year the contract may become harder, with the contract company demanding higher quality for a lower price, while charging more for services and inputs. If a farmer has become dependent on a contract company, they have no choice but to accept the poorer deal. Contract farming is not always profitable – after deductions, the cash in hand may be small; one study showed that half of new tobacco farmers did not make a profit.³¹ Finally, power relations are imbalanced in Mozambique, with the contract company holding most of the power; Mozambique has not attempted to regulate contract farming, and the farmers themselves have not yet formed associations to negotiate with the contract companies.

³⁰ Hiten Jantilal, "Current Tobacco Production and Commercialization in Mozambique", Maputo: Ministério da Agricultura, 2013, and Universal Leaf Tobacco Company, "2012 Supply & Demand", Richmond, Virginia, USA, 2012. <http://www.universalcorp.com/PubReports/2012%20Supply%20and%20Demand.pdf>

³¹ Rui Benfica, Julieta Zandamela, Arlindo Miguel, and Natércia de Sousa, "The Economics of Smallholder Households in Tobacco and Cotton Growing Areas of the Zambezi Valley of Mozambique," Maputo: Ministério da Agricultura, 2005, Research Report 59E, Table 16.

What role for government?

The end of the Cold War in 1989 eventually brought peace to Mozambique in 1992. But the victory of the capitalist nations over the socialist ones emboldened the international financial institutions (IFIs) to impose a very harsh neo-liberal model on developing countries, based on the minimum role for the state and economic affairs left entirely to the free market. Mozambique was seen as a formerly socialist state, so the free market had to be imposed with special rigour.³² In the period 1992-95, the IMF even prevented post-war reconstruction, on the grounds that it would be inflationary.³³ The impact can be seen travelling in rural areas; there are 969 shops destroyed in the war that remain in ruins more than 20 years later.³⁴ In agriculture, the IFIs forced an almost total withdrawal of the state; research was run down and seed production privatised. In 1999 when the Ministry of Agriculture attempted to increase the number of extension officers from 700 to 1024 – only 10% of the recommendation of the UN Food and Agriculture Organisation (FAO) – it was blocked by the World Bank on the grounds that only private companies should do extension.³⁵

The policy was still strongly in force in 2006 when the World Bank said "Today, the Ministry of Agriculture formulates policies and regulations, and the private sector supplies inputs and markets." The Bank admitted that after more than a decade the policy was not working: "The dismantling of state-owned organizations that provided agricultural inputs and bought and marketed production has created a vacuum" which the private sector did not fill. But the Bank's only response to the failure of its policy was that Mozambique must "improve the business environment."³⁶ In response, "the government initiated an ambitious process of liberalising the market under the Agricultural Commercialisation Strategy 2006-2009,"³⁷ reported the Ministry of Agriculture. But it admitted in 2011 that this failed to stimulate the market, because of a lack of credit, a lack of quality control, and a general lack of government intervention to support the market.³⁸ The Ministry of Industry and Commerce in its 2013 Integrated Agricultural Marketing Plan (Plano Integrado da Comercialização Agrícola, PICA)³⁹ underlines the lack of support for new domestic (Mozambican) agribusinesses: "there actually exist few services to support marketing." Furthermore, "there are no incubators supporting new companies in areas of agricultural marketing."

In 2006 when the Ministry of Agriculture was still backing "an ambitious process of liberalising the market", the Ministry of Industry and Commerce was already abandoning that failed line, and beginning a slow process of rebuilding a marketing board. In 1961 the colonial government had created a marketing board, the Cereals Institute (Instituto de Cereais de Moçambique, ICM). In 1981 this was transformed into a state company, Agricom E.E., which was abolished in 1994 under pressure from the international financial institutions. The World Bank and other international agencies forced governments to abolish the marketing boards because they were inefficient, and because the Bank believed that under the free market traders would offer higher prices to peasants. This did not happen: traders kept the higher profit margins, but often did not go to remote areas to buy. Marketing boards usually promised to buy all the grain offered at a pre-announced floor price, and the surprise for the World Bank economists was that peasants were more interested in having a guaranteed market, even if they were paid a lower price. Indeed, in promoting commercial crops, an assured market seems the most important factor. Finally in 2006 the ICM was recreated as a marketing board. In 2011 President Armando Guebuza gave a further

³² Reported in detail in Joseph Hanlon, *Peace without profit: How the IMF blocks rebuilding in Mozambique*, Oxford, UK: James Currey, 1996 and Joseph Hanlon and Teresa Smart, *Do bicycles equal development in Mozambique?*, Woodbridge, Suffolk, UK: James Currey, 2008.

³³ *Do bicycles equal development in Mozambique?*

³⁴ Plano Integrado da Comercialização Agrícola para 2013-2020 (PICA), Maputo: Ministério da Indústria e Comércio, 2013, p 32.

³⁵ *Do bicycles equal development in Mozambique?*

³⁶ *Mozambique Agricultural Development Strategy: Stimulating Smallholder Agricultural Growth*, Washington: World Bank, 2006 Report 32416-MZ, pp xvi, xviii

³⁷ Plano Estratégico de Desenvolvimento do Sector Agrário 2011-2020 – PEDSA, Maputo: Ministério da Agricultura, 2011, p 19.

³⁸ PEDSA p 20.

³⁹ Plano Integrado da Comercialização Agrícola para 2013-2020, Maputo: Ministério da Indústria e Comércio, 2013.

push to ICM to intervene in agricultural marketing⁴⁰, although the presence of the ICM remains limited.

Meanwhile, João Mosca⁴¹ notes that "documents elaborated by the Ministry of Agriculture remain excessive 'agrarian' and do not link the agricultural and rural sector to the economy." Targets continue to be in terms of crops produced without looking at who produces them and how, or at jobs created. The 2011 *Strategic development plan for the agrarian sector (Plano Estratégico de Desenvolvimento do Sector Agrário, PEDSA)*, continues the tradition of producing a long list of things that need to be done, all of which are priorities. PEDSA has a large "Matrix of principal indicators and targets" but the targets largely relate to crop production, and not to the broader issues.

However, on the lack of rural credit, both PICA and PEDSA call for government intervention. PEDSA urges a series of government interventions to promote rural credit, including sharing the risk on agricultural loans and "seasonal credit for viable farmers to finance the farming season through commercial banks with support from the government."

In a first step in this direction, on 21 November 2013, eight Mozambican banks signed an agreement with GAPI for an agribusiness fund with guarantees by Denmark. Loans can range from 500,000 MT to 12 million MT (\$17,000 to \$400,000).⁴² The guarantee will range from 20% to 65% of the total loan; the bank carries the risk for the remainder of the loan.

These are only very first steps, but they do reflect a first shift in thinking away from the dual strategy and the assumption that the free market and foreign investment will solve Mozambique's poverty problem.

The politics of maize

Staple food crops are highly political in most countries, and Mozambique is no exception. Most countries want to keep the cost of urban food low, and in Mozambique this is reinforced by the 2008 and 2010 price riots in Maputo. As much of the food consumed in the capital is imported from South Africa, the government has tried to keep a high (overvalued) exchange rate of three Meticaís to one Rand, in order to keep imported goods cheap. At the same time the price paid to farmers for maize is well below the world market price, further reducing urban good prices. But it creates another problem: it is not worth growing or trading maize. The Ministry of Industry and Commerce admits that sometimes farmers cannot sell their maize.⁴³

Contract farming has only been for export crops or for local crops with restricted markets, such as chickens and soya. There has been no contract farming for the main staple crops, maize and rice. As well as the problem of an unprofitably low price, it is very easy for the farmers to sell rice or maize to other buyers and not fulfil their contract, in what is known as "side-selling". The issue is illustrated by the success of the renationalised seed company Semoc and the private South African company Pannar, which do contract farming for seed maize; they pay double the price of food maize for the higher quality demanded and farmers find this profitable, while there is no side-selling problem because no other maize buyers offer that high a price. But no company will do contract farming for ordinary food maize.

Precisely because staple grains are of less interest to contract companies and traders, most African governments, from the colonial era, have had marketing boards such as ICM, which guaranteed to buy grains and set a guaranteed price in advance. Neighbouring Zimbabwe has kept its Grain Marketing Board (GMB), which sets a floor price for maize which is near the import parity price, and is higher than the price paid to Mozambican small farmers. This makes maize production and trading profitable in Zimbabwe; most maize is sold to private traders, but the GMB guarantee to buy gives farmers the confidence to expand production. As noted in chapter 1, India plans to buy grain from poor farmers at a higher price and sell to poor city dwellers at a subsidised price, and OCM has agreed to allow that.

⁴⁰ Almiro Mazive, "Guebuza optimista sobre revitalização do instituto de cereais de Moçambique" Maputo: AIM, 30 Apr 2013. <http://noticias.sapo.mz/aim/artigo/462430042012193944.html>

⁴¹ João Mosca, *Políticas Agrárias de (em) Moçambique (1975-2009)*, Maputo: Escolar Editora, 2011, p 276.

⁴² "Bancos aderem ao fundo de garantias para PME's", *Notícias*, 26 November 2103.

⁴³ PICA, p 20.

There are other ways to support small commercial grain production. Malawi boosted maize production through a fertiliser subsidy. Mozambique could easily double maize production, especially by small and medium commercial farmers, and become an important exporter – but it will require some form of government subsidy and intervention.

While the minerals boom should generate increased state revenue, it is widely recognised that it will not create jobs or reduce rural poverty. A United Nations University-Wider study⁴⁴ concludes that "the most important priority for jobs is to address the low levels of agricultural productivity." The study⁴⁵ argues that "revenues from resource extraction should be used for large, long-term public investments and policy commitments towards job creation." Agriculture must be a centre of generating the much-needed jobs, and small and medium commercial farmers will create jobs for themselves and many others.

⁴⁴ "How to promote sustainable jobs in Mozambique", *WIDER-Angle* newsletter, Nov 2013, Helsinki: UNU-Wider. http://www.wider.unu.edu/publications/newsletter/articles-2013/summaries/en_GB/11-12-2013-RA-2/

⁴⁵ Sam Jones & Finn Tarp, "How to promote sustainable jobs in Mozambique", *WiderAngle Newsletter*, 29 November 2013, http://www.wider.unu.edu/publications/newsletter/articles-2013/summaries/en_GB/11-12-2013-RA-2/



Members of the Associação Agro-Pecuária (Farming and Cattle Association) Tilimbque-Ullongué, in front of their warehouse, with one of the authors.

3. Who are the small and medium commercial farmers?

We estimate that there are at least 68,000 small and medium commercial farmers in Mozambique. But who are they? The next few chapters are based on talking directly to new commercial farmers and other new actors. But in the first part of this chapter, we draw an overview from two good and detailed rural surveys, carried out by the Ministry of Agriculture. The TIA (Trabalho de Inquerito Agrícola) in 2008 interviewed 5,968 farmers and the IAI (Inquerito Agrícola Integrado) in 2012 interviewed 6,744 farmers. The ministry estimates that in 2012 there were 3.9 million farmers in Mozambique, so the samples are small, but they were carefully chosen to be representative. We also use studies on some specific crops, such as soya. Sample surveys cannot tell us in detail about individual farmers, so we only give our estimates in "round" or very general numbers - thus we talk of 12,000 farmers and not 12,127, because the data is not accurate enough to give a precise figure.

First we look at some basic cash income data. The IAI shows that the median rural family cash income — the level at which half of families are above and half are below — is 3400 MT per year (or 700 MT or \$ 23 per person per year). That is significantly less than half a US dollar per person *per week* in cash, to purchase food and all the others things a family needs.

Next, we define a "small commercial farmer" as a farmer who produces primarily for the market and sells crops worth more than five times the median family cash income, 17,000 MT per year (\$567 per year). We somewhat arbitrarily define a "medium commercial farmer" as being in the top quarter of commercial farmers, with cash sales of over 40,000 MT per year. We use the terms "emergent farmers,"⁴⁶ "middle farmers" or simply "commercial farmers" for both small and medium commercial farmers. In summary:

700 MT = \$23 = £14 = median cash income per rural person per year

3,400 MT = \$113 = £68 = median cash income per rural family per year

17,000 MT = \$567 = £340 = minimum cash income⁴⁷ per family to be a small commercial farmer.

40,000 MT = \$1330 = £800 = minimum cash income per family to be a medium commercial farmer.

⁴⁶ Properly, an "emergent farmer" should be a small or medium commercial farmer who is striving to be bigger and more productive, and not one who is satisfied with their present small commercial farm. We use the term more broadly, but discuss the issue in chapter 7.

⁴⁷ Note that cash income is not profit - some costs and expenses must be paid from this.

We estimate from the IAI and TIA that there were about 68 000 medium and small commercial farmers – fewer than 2% of all farmers.

Location

We estimate the distribution across Mozambique's 10 provinces as:

18,000 Tete
14,000 Niassa
10,000 Nampula
9,000 Manica
6,000 Zambézia
4,000 Sofala
2,000 Cabo Delgado
2,000 Inhambane
1,000 Gaza
1,000 Maputo Province

68,000 Total

More than half of Mozambique's emergent farmers are in three specific areas, in the higher land near Malawi and Zimbabwe:

+ One-quarter live in the Planalto de Angónia (Angónia Plateau) of Tete province, in the four districts of Angónia, Chifunde, Macanga, and Tsangano.⁴⁸ They have the highest earnings, with a mean income of over 50,000 MT per year.

+ Another large group is at the western end of the Nacala corridor, most in high areas near Malawi. In Niassa they are in the districts of Cuamba, Mechanhelas, Lichinga and Mandimba; in Zambézia they are in Milange, Morrumbala and Gurué; and in Nampula in Malema.

+ A third large group is in four districts of Manica along the border with Zimbabwe: Barué, Sussendenga, Machaze and Mossurize.

These are areas of good soils and rainfall. There has been regular trade and movement across the border and thus these farmers have regular contact with more established small commercial farming in neighbouring countries. But these districts were also heavily affected by the 1981-92 war. That means most of Mozambique's middle farmers are relatively new, and developed their farms after the end of the war.

The other emergent farmers are spread across Mozambique in many districts.

Crops

Nearly half of small and medium commercial farmers grow the two main export crops, tobacco and cotton. Tobacco is the main crop for 20,000 emergent farmers, mainly in the highland areas bordering Malawi, and it remains one of the most profitable crops. Cotton is the main crop for 10,000 emergent farmers, spread across Cabo Delgado, Niassa, Tete, Manica and Sofala.

Most commercial tobacco and cotton farmers do not grow another significant commercial crop.

Half of commercial farmers grow food crops, mainly for national consumption. They are widely spread across the country. Most of these farmers grow a mixture of two or three of food crops commercially. Beans are the main crop for 10,000 farmers. Most grow *feijão manteiga* (butter beans) and some grow *feijão boer* (pigeon peas) for export as dal. Maize is the main crop for 10 000 farmers. Soya is the main crop for 5,000 farmers. Other commercial farmers prioritize a range of different crops - peanuts, rice, potatoes, sesame and tea for export and local sale.

Finally, there are two specialised groups. About 2,000 commercial livestock producers, half of whom do commercial arable farming as well, and more than 3,000 producers who concentrate on horticulture, producing a wide range of vegetables.

⁴⁸ In this book we will use Angónia to mean the four districts of the planalto.

Other income

Most of these small and medium commercial farmers are primarily farmers; 50% have no other source of income while 30% have other income, mainly from self-employment, but their farm income is larger than their non-farm income. On the other hand, for 20% farming is not their main business and their other income - from wages or businesses - is often much larger than their farm income; indeed, one third of this group have non-farm incomes above 100,000 MT per year..

The biggest farmers

Finally let us look at the more successful – those we might call medium commercial farmers. The 17,000 who are in the top 25% have an income over 40,000 MT per year. They grow a similar range of crops as the small commercial farmers, but between 2008 and 2012 there appears to have been a move out of tobacco and cotton into other crops, notably sesame and soya.

The top 10% of farmers are the 7,000 who have farm incomes over 65,000 MT per year. There are three groups. Half of the top farmers are full time farmers with no others income, and they are the most profitable, with a mean farm income of 200,000 MT per year. Almost half divide their time between their farm and another business or salaried job; the mean farm income is 70,000 MT per year and mean off farm income 20,000 MT per year. There is a small group of 500 relatively wealthy families, with a mean farm income of 100,000 MT/y but a mean off farm income of 750,000 MT/y.

Various farmers in this top 10% specialise in all of the main crops. In order of importance, they are:

1) **Tobacco** is the most profitable, with more than 2,500 of the top farmers growing it. They are mainly in Tete and Niassa. Most of these bigger tobacco farmers concentrate on tobacco; only one-third have a second commercial crop and non-farm incomes are not large. This seems true for tobacco farmers in general.

2) **Livestock** is the main crop for 1,000 of these top farmers, mainly in Manica province but also in Maputo, Tete, Zambézia and Cabo Delgado. Some have a second commercial crop – sesame, maize or horticulture – and some have a significant non-farm income.

3) **Oilseeds** come next, mainly sesame and sunflower, grown in Tete, Nampula and Manica.

4) **Cotton** in Tete and Manica. Some have a second crop, often livestock or sesame, and some have outside income.

4) Some of the big farmers do various forms of **mixed cropping**, which often involves beans (particularly *feijão boer* for dal, *feijao nhemba* - cowpea - and *feijão manteiga*), soya, peanuts and maize.

Angónia

The Planalto de Angónia's four districts are interesting because they are home to one quarter of all of Mozambique's small and medium commercial farmers, who have developed their farms in just two decades. These farms are an indication of both possibilities and problems, notably relating to markets and machinery.

Angónia was important in the colonial era. The Jesuit priests in Fonteboa, near Ulongué, still have their farm, and produce peaches and coffee as well as soya and potatoes. Senhor Carneiro arrived in 1966 to work on a farm. After independence he stayed and joined the state farm CAIA (Companhia Agro-Industrial de Angónia) until it was destroyed in the war in 1988. He moved to Tete city until the war was over, then was allowed to take over part of CAIA as his own and has slowly rebuilt the farm. He started with tomatoes, as a crop that he could grow quickly for relatively little money, and reinvested the profits. He produces peaches, plums and apples, as well as tomatoes, maize, potatoes, cattle and wine. He has sent his children to university; his daughter trained as a doctor at Universidade Eduardo Mondlane, and his son is slowly taking over running the farm, although the 72-year-old Carneiro remains in charge.

Senhor Carneiro is not alone in building a commercial farm after the war. Sitting on chairs and benches under a tree on a sunny November afternoon, nine of the 24 members told us about their Manguane Association. President Manuel Palusso is a medium commercial farmer who uses 90 ha for maize, soya, potatoes, vegetables and cattle. Another member has 60 ha, and the rest 5-15 ha. All have motorcycles, irrigation pumps and carts; some have tractors and others cattle for

ploughing. Unlike many commercial farmers in Mozambique, these feel like the farmers we met in Zimbabwe writing our book *Zimbabwe Takes Back its Land*, who plan and invest their profits in their farms. And like their Zimbabwean counterparts, all use hybrid maize seed and fertiliser, and have a yield of 3-4 tonnes per hectare; not many Mozambican farmers grow hybrid maize and most have yields of 750 kg/ha. All employ both permanent and seasonal workers. These farmers are prosperous enough to send their children to secondary school and some to university – from the profits of their farms.

Building up their farms after the war, they formed an association primarily as a way of leveraging more support. This has helped them develop soya, which is becoming their most important crop (discussed more in the next chapter). As a group, they have been able to organise some loans with Banco Terra and Gapi⁴⁹, and set up some contract growing.

Angonia has several recently formed large associations. We visited two, Dobué with 3581 members divided into 110 clubs, and Tilimbique-Ulongué, with 2440 members in 60 clubs. These are small commercial farmers, with most members using about 5 ha. Both have contracts to sell maize to the World Food Programme (WFP, *PMA*) at slightly above local market prices. WFP supplies the seed. Dobué already uses hybrid seed and fertiliser, and Tilimbique-Ulongué had intended to in the 2013 planting, but the WFP seed came too late. Maize seems to provide only a small profit if it is not sold to WFP or Pannar at a higher price. (See "The maize conundrum" in chapter 5 for a more detailed discussion.)

Both associations are shifting to two new crops, soya and potatoes, which are seen as more profitable. New potato varieties now being introduced could raise production from 15t/ha to 50t/ha, but the real problem is obtaining good quality seed potatoes; most farmers just save their own seed. So far the potato market is largely in Malawi. Dobué members grow tobacco, but after six years of work with Clusa⁵⁰ (Cooperative League of the USA) and growing some soya, many are increasing their soya areas. They explain that tobacco requires hard work over a longer period of time, while soya earns more for less work. The associations are seen as valuable because they were channels for WFP and Clusa contracts and assistance. Indeed, Tilimbique-Ulongué says new clubs are joining precisely because of access to Clusa soya seed, which allows them to move away from tobacco. Both have warehouses and Tilimbique-Ulongué hopes to sell inputs, which are in short supply despite the closeness to Malawi.

Huge potential, but where is the support?

Driving through Angonia in November the view is of neatly hoed fields stretching in all directions, waiting for the rains. This is an area of improved houses with roofs made of metal sheets; there is a feeling of relative prosperity. In two decades thousands of farmers have turned a war damaged landscape into productive commercial farms, and are earning incomes that are high by Mozambican standards. New crops including soya, potato and perhaps wheat offer the possibilities of higher incomes. Yet the shortage of credit, machinery, inputs and markets is shockingly obvious. Farmers use less than half of their rich farmland, even the medium commercial farmers of Manguane Association, because they cannot prepare the land or obtain inputs. Indeed, inputs seem to come almost entirely from outside agencies - Mozambique Leaf Tobacco, WFP, Pannar, Clusa, AgDevCo and others. And if a contract company such as Pannar drops out, it is hard for farmers to continue. As we note below, government is willing to build new buildings that President Armando Guebuza can open, but so far has not been able to provide finance to put them into use and create value chains. Finally, Angónia, despite its agricultural richness, does not seem to attract buyers from elsewhere in Mozambique. Senhor Carneiro is one of the largest farmers, with over 400 ha, and he has a truck and takes produce to Tete City twice a week. Soya buyers do come to

⁴⁹ GAPI, originally the Gabinete de Apoio à Promoção de Pequenos Investimentos (Office to promote small investment), is an investment company jointly owned by the Mozambican state, donors, and Mozambican private investors. Since its founding in 1990, it is the one agency that has consistently treated commercial farmers as SMEs and given them support to develop business skills. It played a key role in the revival of the cashew sector, for example. See www.gapi.co.mz and Joseph Hanlon and Teresa Smart, *Do bicycles equal development in Mozambique?* 2008, chapter 16.

⁵⁰ Founded in 1916 as the Cooperative League of the USA (CLUSA) and renamed the National Cooperative Business Association (NCBA) in 1985. It is the oldest national cooperative development and trade association in the USA

Angónia. But for other crops, from maize to garlic, warehouses were still full in November and there were no buyers.

Mozambique has 68,000 small and medium commercial farmers, who are living better, creating jobs, and helping to build local economies. Angónia shows that with support, they could be larger and more productive. In other countries that support is provided by agricultural banks, marketing boards and other state agencies - but so far not in Mozambique.



Manjel Palusso, president of the Manguane Association in Angónia, is a commercial farmer and is shown here on his tractor.

Mechanisation and markets

Clearly in the top echelon of Mozambican farmers, Angónia's associations face two limits which prevent them growing further. They lack both machinery and markets; as a result, these farmers do not use all of their land.

Land preparation is largely done by hand by family and hired labour, which is the biggest barrier to expanding area. Manguane Association members have some tractors and some use animal traction. Nevertheless, members grow crops on less than half their land. They would all like to expand and become big commercial farmers, but feel that a lack of credit stops them from farming more land. Remarkably, members of Dobué and Tilimbique-Ulongué associations do not use tractors or animal ploughing; all land is opened with a hoe.

Mozambique has fewer than 7000 tractors in the entire country, which is well below the needs.⁵¹ The World Bank estimates that Mozambique imports only 450 tractors a year, which is not enough to replace those which are wearing out.⁵² The average imported tractor costs 850,000 MT (\$28,000); 110 tractors imported with Italian aid cost up to 1.2 million Meticaís.⁵³ These prices are too high for nearly all farmers, and most imported tractors are distributed by government or aid agencies to farmers they choose.

Donors, ministers and officials all like large tractors; they look good in pictures and when they are being handed out. But there are more effective intermediate alternatives – motor cultivators (also known as power tiller, walking tractor, two-wheel tractor, or single axle tractor) and animal traction.

Both work in the same way – for ploughing and weeding, the farmer walks behind the cattle or two-wheel tractor, but the cattle or small tractor can also be attached to a trailer and used for

⁵¹ Data is poor, but Mozambique has about 13 tractors per 100 sq km of arable land, compared to 22-25 in Kenya, Tanzania and Zambia, 43 in South Africa, and 67 in Zimbabwe. <http://www.quandl.com/> using World Bank and FAO data.

⁵² World Bank. 2012. *Agribusiness indicators : Mozambique*. Washington, DC: World Bank, p 38.

<http://documents.worldbank.org/curated/en/2012/04/16374790/agribusiness-indicators-mozambique>

⁵³ "Subsídio à mecanização agrícola vai continuar", *Notícias*, 30 de Maio de 2013 and "Disponíveis 400 milhões para crédito agrícola", *Notícias*, 2 de Agosto de 2013.

transport. Ikuru in Nampula is now importing Chinese motor cultivators, which cost 150,000 MT (\$ 5000) with a trailer and other equipment. Brazilian and Thai two-wheel tractors are also available in Mozambique.⁵⁴ Some are being imported on a Brazilian credit line and distributed by government. In Angonia we met Diniz Pio who is both an extension officer and has his own farm with 120 ha of maize and potatoes, and he uses a Brazilian motor cultivator provided by the government.

The World Bank in a recent report on Tanzania⁵⁵ notes that "Mechanisation plays a critical role in agriculture commercialisation" and that the number of tractors is actually falling in Africa, while it is increasingly sharply in Asia. It points to a Tanzanian government programme with farmer groups that in two years provided 3,562 power tillers and 169 tractors to groups which paid only 20% of the cost. Mozambique needs to also think about distributing thousands of subsidised motor-cultivators.

A key issue is maintenance and repair; there are few workshops and mechanics and a wide range of makes of tractors. Typical of the problem is that there are a few tractors in the rich farming area of Catandica, Manica, but the nearest workshop is in Chimoio, 150 km away. It is a classic chicken-and-egg problem, the private sector will not move in because there is no market because there are so few tractors, so groups do not buy tractors and tillers because they cannot be maintained. Providing the start-up finance and initial subsidy for the first couple of years for maintenance centres would be an ideal project for an aid agency; it might be linked to initially offering contract ploughing. The Ministry of Agriculture is planning to set up 19 new service centres, which is a start. Again, some simpler motor-cultivadores can be more easily maintained because they use motorcycle parts, and there are more motorcycle mechanics than tractor repair people.

Cattle are not widely kept in Mozambique because of the tsetse fly borne disease trypanisomiasis, so they are common only south of the River Save and the high areas of Tete (notably Angónia) and Manica provinces. In those areas cattle are used at least to pull carts, but only sometimes for ploughing. Indeed, in parts of both Tete and Manica, when we asked about using cattle for land preparation, our question was met with incredulity and the response was that "cattle are never used for ploughing" – when only 75 km away, they are. Both cattle and farmers need to be trained, which would require continuing government or donor support. Bill Kinsey has done a long-term study of 1980s land reform farmers in Zimbabwe, where there is less tsetse and more experience with cattle. He wrote: "In the early 1980s, it was not uncommon to see three people working with an ox team and plough: one handling the plough, one leading the team with a rope, and the third walking alongside with a whip exhorting the oxen to behave and do what is wanted. Fifteen years later, one sees a single man ploughing by himself and controlling the animals entirely through whistles and voice commands."

As we will say repeatedly in this book, it takes a decade to make the leap to commercial farming, and it is not easy. But if they are supported, many farmers will do it. And the first essential help must be some level of mechanisation, with animals or machines, to make it easier to plough and expand cultivated area.

Markets

Angónia has some of the best of Mozambique's small and medium commercial farmers, yet even they face a ubiquitous problem of lack of markets. Samsoni Pedro was interviewed by the daily newspaper *Notícias* in August 2012.⁵⁶ He farms 25 hectares of tobacco, which has a guaranteed market, and 30 hectares of maize, with an excellent yield of 3 tonnes per hectare. Pedro is an emergent farmer who wants to expand. With profits from his farm, he had already bought a tractor and two small trucks. But his problem was lack of market. "My dream is to buy a big truck to transport my maize and beans to Beira." But he does not have the big truck yet and no one comes to buy his maize.

Despite their large size, members of Manguane Association took up contact farming. Many farmed maize seed for the South African seed company Pannar, which paid 17 MT/kg for hybrid

⁵⁴ Some NGOs are promoting small motor cultivators which are not strong enough to plough, and which are only useful in various forms of conservation agriculture. The whole purpose of motor cultivators here is to plough, so they must be large enough to do so.

⁵⁵ *Agribusiness Indicators: Tanzania*, World Bank, November 2012.

⁵⁶ "Agricultor privado destaca-se na produção agrícola em Angónia", *Notícias*, Maputo, 23 de Agosto de 2012.

seed - a very lucrative price. Initially Pannar supplied seed and fertiliser on credit. The farmers reinvested their profits and were soon buying their own seed and fertiliser each year. But Pannar ended the contract with this group just before planting for the 2012/13 season. The farmers decided to go ahead and still plant their maize, but found they could not sell it at an acceptable price. When we visited in mid-2013 all had warehouses full of maize that they were holding in the hope that prices would rise.

Angónia has had a successful trial of growing wheat, and the idea was to send the wheat to millers in Beira, but that was never organised. The farmers could not find Mozambican buyers, and are selling in Malawi instead. Farmers sell their potatoes in Malawi, and there is a thriving informal market along the border, trading in both local currencies. We met one Mozambican farmer near the border who also has two trucks, one registered in Mozambique and one in Malawi, so he can sell on either side.

Responding to complaints about lack of markets, Alberto Vaquina, then governor of Tete and now Prime Minister, told a meeting in Angónia in August 2012 that it was not for government to deal with marketing: "you must organise yourselves better", he said.⁵⁷ Vaquina also called for more food production. But without a local market for food crops, farmers are indeed organising themselves – to produce other crops. There is a move from maize to soya, which has an assured market at a higher price, and more produce is sold in Malawi.

In the "open presidency" tours of the country, peasants frequently raise with President Armando Guebuza the lack of markets, or, where they exist, they say that traders pay such a low price that it is not profitable to grow for the market. Guebuza's normal response is that markets are not an issue for government. In Morrumbala, Zambézia, on 25 April 2012 after a provincial tour, the President told journalists that peasant farmers must organise themselves into associations in order to influence the prices paid for their crops. By forming associations or cooperatives they create the capacity to negotiate with the buyers. As long as peasants acted simply as individuals, he added, the buyers will have no difficulty in fixing a price that suits them.⁵⁸

The following year on another Zambézia tour, 10 peasants raised the issue of low prices at a meeting in Mulela, Pebane. Armando Guebuza responded that these are problems of underdevelopment affecting all Mozambicans, and went on to cite the new secondary school, mobile telephones, and new boreholes for drinking water as examples of what the government is doing to end poverty.⁵⁹

Intervention not just for show

Although President Guebuza has largely taken the line that agricultural marketing is not a role for government, as we noted in chapter 2, in 2011 he did push the Cereals Institute (Instituto de Cereais de Moçambique, ICM) to intervene in agricultural marketing. Too often, however, interventions are showpiece projects.

ICM is under the Ministério da Indústria e Comércio, which in a June 2013 report trumpeted three new grain factories to be run by ICM. One in Ulongué has a new maize processing centre with two large silos and a maize mill that can process 100 tonnes per day. The idea was that the centre would have contracts with local farmers, supplying seed and fertiliser and buying the maize. But when we visited in November 2013, the director was sitting behind his desk in front of empty silos and a silent mill. The factory was built by the Chinese and when we visited, had been ready for months. But it had no budget, so it could not buy maize. And no one knows if there is a market for 100 t/day of maize meal and animal feed. Similarly, a market and warehouse in Tsangano, intended partly to store potatoes for shipment south in Mozambique, stands empty and unused.

ICM's new rice factory in Namacurra, Zambézia, opened in December 2012 and was formally inaugurated by President Guebuza on 5 August 2013. It can process 150 t/day, but it, too, stands largely empty, partly because it is competing with another rice factory 35 km away in Nicoadala. Nearby, as part of one of his open presidency tours, President Armando Guebuza on 21 May 2010 visited irrigation schemes at Munda-Munda and Intabo, in Nante, Maganja da Costa, Zambezia. In a public meeting he said rice production in the area could be increased five to seven times. And he announced that within 45 days electric pumps would be installed in both irrigation

⁵⁷ "Agricultor privado destaca-se...", *Notícias*, Maputo, 23 de Agosto de 2012.

⁵⁸ "Peasants must organise themselves – Guebuza", AIM, 26 April 2013

⁵⁹ Mussa Mohamed, "Camponeses queixam-se ao PR de preços baixos", *Notícias*, 8 de Agosto de 2013.

systems with a capacity to irrigate 1000 hectares, compared to 200 ha at that time..⁶⁰ Cepagri (Agriculture Promotion Centre, Centro de Promoção da Agricultura) was given the job, and rushed to meet the deadline – drawing protests as cashew and mango trees were cut down to allow electricity lines to be installed quickly. Pumps and motors were installed at Munda-Munda and Intabo, and connected to electricity. It is said that one of the pumps was tried, and immediately burned out the motor. Neither pump was ever used again.

The motors did not match the pumps, but this problem was never resolved. When we visited on 27 August 2012, we were shown the pumps. But only after repeated questions did local people admit they had never been used. People seemed too embarrassed or too afraid to say anything. When the President's wife, Maria da Luz Guebuza, visited Nante on 29 March 2011, no one mentioned the pumps. When we asked the president of the Associação Munda-Munda, Adetino Luis, he said simply "we are peasants" and cannot resolve this; "it is up to our partners [international donors] to resolve this problem." Officials from the local NGOs ORAM and APAC (Associação de Promoção de Agricultura Comercial) looked shame-faced, and said they only helped to organise cooperatives and did not deal with production or pumps.⁶¹

As we note in Chapter 7, most developed countries intervene in staple food markets and often guarantee to buy. If Mozambique expects to boost food production, government intervention is essential. But to be useful, intervention must be integrated and coordinated. There is always the temptation to give one big tractor instead of seven motor cultivators costing the same amount, or to build a big factory for the President to see and open, or to install a big pump. Can ICM establish systems that each year buy a few tonnes of grain each from thousands of commercial farmers?



Just having a warehouse is not enough. Raimundo Saraiva Marquela, president of the Gurué Producers Federation, sits on maize sacks in the federation warehouse. The warehouse was built with funding from USAID, but it remains almost empty because the federation has no working capital with which to buy crops. It had a contract to sell 10 tonnes of maize to the World Food Programme, but could not meet it because it had no money to buy maize.

⁶⁰ Osvaldo Gêmo, "Regadios otimizados para produzirem mais," *Notícias*, 21 de Maio de 2010.

⁶¹ Joseph Hanlon and Adriano Nuvunga, "Para Presidente ver," Serviço de Partilha de Informação nº17/2012, Maputo: Centro de Integridade Pública, 2012, <http://bit.ly/JAaUbY>



A trader buying maize in Lioma, Zambézia.

4. How did soya create emergent farmers?

Soya beans are the catalyst for one of the most dramatic changes to the rural landscape in recent years. Totally unknown a decade ago, they have become the key crop for thousands of emergent farmers. Soya is a model of how a new crop can be introduced and small and medium commercial farmers can be promoted. Within that are many different stories: the central role of the public sector, time and patience, social differentiation, contracts, different approaches by big investors, and land conflicts between big and small.

Soya was first introduced in 2004. By the 2009/10 agricultural campaign there were 11,200 farmers producing 7 500 tonnes and by the 2011/12 season this had jumped to 26,750 farmers growing 31,500 tonnes of soya, according to Luis Pereira, agriculture programme director of TechnoServe.⁶² Of this, 15,000 tonnes was produced in Zambézia, in Milange, Gurué, and Alto Molocué districts, and 12,000 tonnes on the Angónia plateau in Tete. The rest was grown in Manica, Nampula and Niassa. The farm gate value of this soya was more than 500 million MT in 2012. The social and economic transformation has been rapid and impressive. A 2011 evaluation said that "the most notable impact ... has been a significant increase in disposable income, manifesting itself through higher levels of food consumption, the building of brick and mortar houses with zinc roofing, pervasive use of bicycles and a rapidly growing proportion of households using motorcycles."⁶³

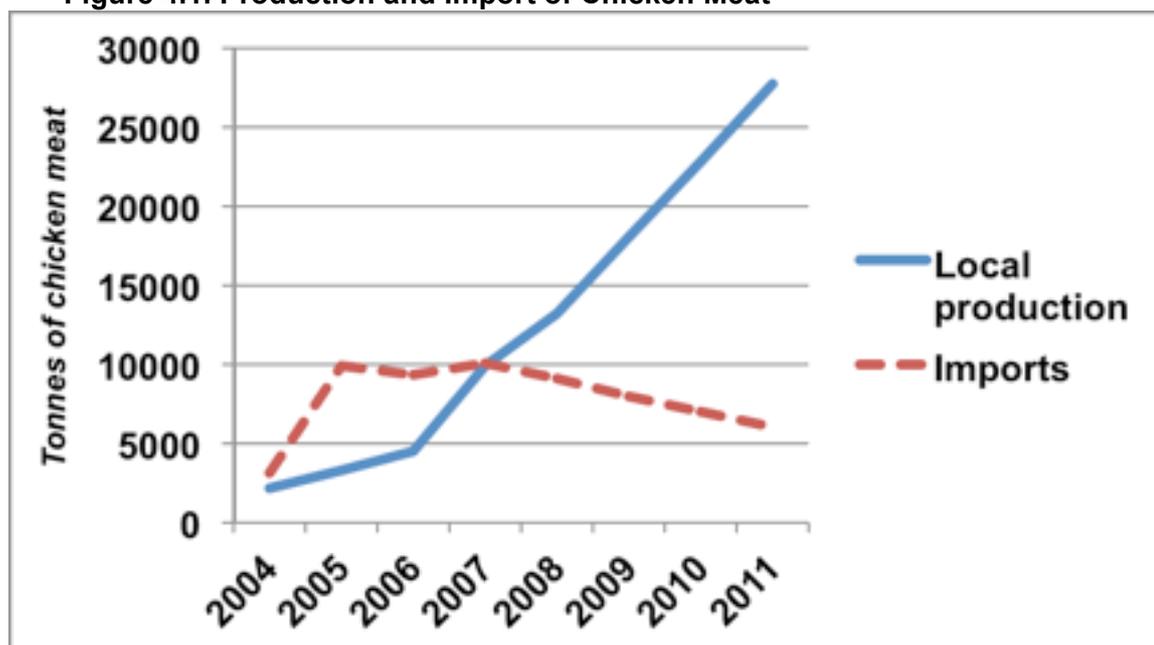
Production still does not meet domestic demand; soya is imported, not exported. The main market is as feed for chickens in the centre and north, and the big chicken producers are Abilio Antunes in Chimoio, Manica, and Novos Horizontes and Frango King near Nampula city. As Figure 4.1 shows, chicken consumption began to rise from 2004, initially satisfied by imports, mainly from Brazil. But local production began to increase in 2006 and has continued to rise - which means a growing demand for soya to feed the chickens.⁶⁴ Thus the timing was propitious. Rising consumption created a market just as a new crop was introduced.

⁶² Luis Pereira, "Situação geral da Soja em Moçambique", Maputo: TechnoServe, 2012.

⁶³ Fion de Vletter, "Switching to soy: a case study of the impact of introducing soy bean cultivation to Ruace village, Zambézia province, Mozambique", Nampula: CLUSA, 2011.

⁶⁴ Filomena Dos Anjo, "Poultry Sector Mozambique," FAO Animal Production and Health Livestock Country Reviews. No. 5, 2013, Rome: FAO.

Figure 4.1. Production and Import of Chicken Meat



Source: Filomena Dos Anjo, 2013

Brazilians tried to introduce soya to the Lioma state farm (Complexo Agropecuário de Lioma, CAPEL) in Gurué in the 1980s and World Vision attempted to reintroduce it in 2002, but both attempts were not taken up by local farmers. It was not enough simply to offer a new crop to farmers. Instead it was a successful decade-long push of a technological package by donors and NGOs – Clusa, TechnoServe, Gates, Norway, Switzerland, the United States, International Institute of Tropical Agriculture (IITA) and others – that turned it into a profitable crop. Unlike many donor projects which only offer information and help to organise associations, the Norwegian-funded Clusa/TechnoServe support programme involved people getting their hands dirty – supplying tractors and ploughing, organising seed production, promoting marketing, and training people to see farming as a business. One interviewee commented: "World Vision introduced a technology – a crop – but they did not promote or expand it. Clusa promoted a business, not a crop."

This is the antithesis of the private sector acting on its own. Instead, what might be called the "international public sector" built the social, technological and market infrastructure. The private sector only showed interest when the public sector had proved soya was profitable. Starting in 2010 some international agribusinesses have tried to farm big tracts of land, which has already created land conflicts, while others have opted for contract farming, often reducing their risk through partnerships with NGOs and donors.

Most soya farmers are small, with less than 1.5 ha of soya and earning relatively little money. But it is proving to be a good and profitable crop for emergent farmers and we estimate that there are 5000 small and medium commercial farmers whose main crop is soya. These farmers are expanding their area, but as we noted in chapter 3, are restricted by the lack of machinery. So far, the hard work on soya is being done by the small farmers and thousands of day labourers with traditional hoes (*enxadas*). Weeding and harvesting is normally done by hand. But a shortage of tractors and threshers means even emergent farmers are doing most of the land preparation and threshing by hand. Day labourers (doing what is known *ganho-ganho*) are paid by task and earn less than 50 MT (\$1.75) per day, half the agricultural minimum wage of 2300 MT per month. Even at this low wage, people are coming from neighbouring districts looking for work. With this low payment, the cost of opening the land by hand can be cheaper than ploughing using a tractor, but this is not sustainable, either for the farmers or the labourers. Luis Pereira estimates that of 30,000 ha of soya in 2011/12, only 2600 was ploughed by tractor and 1000 by animals. And that was mainly provided by Clusa and the contract farming companies.

4 200 soya farmers in Gurué

One-fifth of Mozambican soya producers and production are in just one district, Gurué. Based on data from Clusa, InovAgro, African Century Agriculture (ACA, formerly known as GETT, and which owns Frango King) and Rei do Agro, plus our own interviews, we estimate that there are 4400 soya farmers in Gurué who farmed 5000 hectares and produced nearly 6000 tonnes of soya in the 2011/12 season.⁶⁵ Gurué is adding more than \$2 million per year to the local economy. Soya is a "revolution for the population," Gurué Permanent Secretary Tito Celestino told us. And the growth potential for soya is huge.

Table 4.1 gives our estimate of distribution of farms by size. The vast majority are small, under 1.5 ha of soya, and are not earning much money. Although soya provides a useful income for subsistence farmers, many of the smaller farmers are dropping it as a crop and growing beans or ground nuts instead. But Table 4.1 also shows that just in Gurué there are almost 1000 small and medium commercial farmers, with sales of over 17,000 MT (\$567). And the 300 medium commercial farmers are earning profits of more than 25,000 MT (\$830) – high profits for Mozambican farmers. Clusa has 6300 soya farmers on its books in Gurué district, but of those, 3000 did not produce soya in the 2011/12 season.

Table 4.1: Gurué district soya farmers, estimates of 2012 harvest

Farm size	Number of farms	Production (tonnes)	Mean sales - MT	Mean profit - MT	
0.5-1 ha	3 300	2 800	13 000	7 000	
1.1-2 ha	600	1 300	34 000	17 000	Small commercial
2.5-4 ha	200	700	57 000	29 000	Medium commercial
>4 ha	100	700	95 000	47 000	commercial
TOTAL	4 200	5500			

Table 4.2 shows that of the soya farmers registered with Clusa, about a fifth are women, and they are more than one-fifth of the commercial soya farmers.⁶⁶

**Table 4.2: Women in Clusa
Zambézia groups**

Farm size	%age women	
0, did not grow soya	23%	
0.4 – 1 ha	22%	
1.1 – 2 ha	23%	Small commercial
2.5– 4 ha	27%	Medium commercial
> 4 ha	19%	commercial
TOTAL	21%	

The growth of soya production will come from the small and medium commercial farmers. Unlike some other crops such as cassava and maize, soya is time critical. Planting must be in December, and the harvest must be after the seeds dry but before the seed pod cracks open. Planting a month late, for example, cuts production by 40%. So producers must learn to complete all the production steps in time, and mechanisation will be important for expansion.

⁶⁵ Thanks for additional information to Mathieu Boche, a PhD candidate at the University Paris XI and an assistant development economist at the Agricultural Research Centre for International Development (CIRAD).

⁶⁶ Clusa has registered 6 300 families as soya farmers, but of those 3000 were not actually farming in 2011/12. Table 4.1 is only of those who were actually farming soya (most but not all were registered with Clusa), while table 4.2 is only Clusa registered farmers but includes those not farming in the 2011/12 season.

So far, Clusa and three contract farming companies have been providing a few tractors for ploughing, and a few tractors associations have tractors. Of 5000 ha producing soya, only 1200 ha were tractor-prepared in the 2011/12 season. A serious expansion of soya production will require a hundred more tractors in Gurué district alone – along with mechanics and workshops. There are still no service centres which sell inputs and pesticides, have extension officers, provide ploughing services and tractors repairs and parts.

A series of inexpensive technological improvements could raise productivity by half or more, which could double profits. IIAM (Instituto de Investigação Agrária de Moçambique, Mozambique Agricultural Research Institute) is developing improved seeds in a project with the International Institute of Tropical Agriculture (IITA). Another improvement is the use of rhizobium inoculants, which are bacteria which raise the nitrogen fixing capacity of the soil; they are specific to each legume and are coated on the seeds. ACA, linked to chicken producer King Frango, gave its contract farmers inoculants and Zimbabwean seeds this season which raised production from 1.1 tonnes per hectare to 1.5 t/ha.

Table 4.1 is based on our estimates of the cost of production and the sale price, which of course varies between farmers and contract companies. We look at cost and income per hectare, and first estimate that the cost of producing soya is about 9000 MT/ha.⁶⁷ Farmers were paid a very high 16 MT/kg in 2012 (and sometimes even up to 17.5 MT/kg), which gave an income of 17,600 MT/ha for ordinary farmers harvesting 1,1 t/ha and 24,000 MT/ha for those that used inoculants and harvested 1.5 t/ha – a profit of 8,600 or 15,000 MT/ha. In chapter 2 we said we would treat farmers with a cash income from crop sales higher than 17,000 MT as commercial, meaning that farmers with more than 1 ha of soya could be considered commercial for the 2011/12 season. This sense of "commercial" is reasonable, because even 1 ha of soya requires attention and organization which is different than the ordinary farmer mostly growing food and selling a few 20 litre tins (*latas*) of maize. And for many farmers, once they have successfully organised 1 ha of soya, the move up to 2 or 3 ha will be less difficult. We expect that most of the growth in soya production will come from medium commercial farmers and especially from small commercial farmers moving up to medium. However, there will also be some peasants with 0,5 ha of soya who choose to move up to 1 ha or 1.5 ha, with the aim of becoming small commercial farmers. For both 2011 and 2013 harvests, the price paid to farmers was a more normal 13 MT/kg, which still gives an income of 14,300 MT/ha for ordinary farmers and 20,500 MT/ha for those using inoculant – a profit of 5,300 or 11,500 MT/ha.

Small commercial farmers - contracts and credit

Some people are making the transition from peasant to commercial farmer and then the next step from small to medium commercial farmer. Three factors seem key for those who make the transition:

- 1) An assured and profitable market.
- 2) A technology and support package, with technical assistance, higher productivity through improved seeds and methods, credit, and some mechanisation.
- 3) Changed thinking by the farmer, including the ability to plan and save, increase production areas, hire labour, and invest.

All three are required at the same time. The first two come from outside – from private companies, government, or donors and NGOs – and provide the incentive for farmers to want to increase production and change thinking.

Contract farming and outgrowing seem important ways forward for emergent farmers. The contract company provides inputs and support (usually on credit), and the farmer must sell to the contract company. Three soya contract companies (discussed in more detail below) had more than 1000 contract farmers in the 2011/12 season. Each has a different model, but generally they offer technical assistance, provide seed and inoculant, sometimes plough and harrow the land, and sometimes thresh the grain.

⁶⁷ Production averaged 1.5t/ha, with a few farmers reaching 2 t/ha, in the 2011/12 season. Costs to ACA mechanised farmers were about 7,300 MT/ha, plus ganho ganho payments for weeding and harvesting, pushing the total cost to 8,500-10,000 MT/ha, giving an average profit of 14,000 MT/ha (\$467).

But credit and contracts are new in Gurué, and many people are not accustomed to the new rules, so there have been substantial problems. African Century Agriculture (ACA), which wants soya to feed its own chickens, had by far the largest group of contract farmers. The contract signed in 2012 before the season said ACA (then known as GETT) would buy at 16 MT per kilogramme. But when the harvest came, traders came in from outside and offered 17 or 18 MT. Many farmers sold their soya to traders, breaking their contract, and did not repay their debts.

The misunderstanding is substantial. Local peasants say ACA cheated them by offering 16 instead of 18, without taking into account that ACA provided essential services that made the production possible. Many years of NGO and government support have also created confusion, leading to a belief that inputs are donations which are not paid for. Two decades of NGOs, donors and government providing inputs and tractors for nothing, and more recently of the District Development Fund (Fundo de Desenvolvimento Distrital, FDD, known as the "7 million"⁶⁸) which is supposed to be a loan but which few ever repay, has created both a dependence on outsiders and also a belief in a new sort of deal – that the farmer provide the labour, outsiders provide the inputs for free, and the farmer keeps any sales income.

Some of ACA's contract farmers were pleased with the support and understand the nature of the contract; they sold their soya to ACA and hope to continue with ACA in the coming season.

The smaller Rei do Agro reports more contract applications than it can handle, and says it will screen new farmers to make sure they are serious and are not just leaving ACA with unpaid debts and looking for more free inputs. Unlike ACA, Rei do Agro promises to pay the market price on the day, which will benefit farmers if prices continue to rise, but not if they fall – and which also makes it harder for the contract company to plan. Indeed, for 2011/12 ACA offered farmers a choice of contract – 16 MT/kg or market price between 14 and 18 MT/kg. At the time the market price was 13 MT/kg, so all farmers took the 16 rather than the market price. (Which did not stop them complaining and blaming ACA when the price rose to 17).

However, for many people the very ideas of contract and repayment are new. There is little sense of profit and loss, or of costs, and family labour is never costed.

As we stress throughout this book, developing farming takes time and involves a process of trial and improvement. Even the best farmers don't always meet their own expectations. The two big soya contract farming companies both had initial failures. In 2012 ACA promised to do mechanical threshing for some of its farmers, but the machinery arrived late, and by then many farmers had threshed manually and sold to other buyers and not to ACA. In 2013 Rei do Agro did not have enough money from its investors so it took soya in trade for the costs of ploughing and inputs, but did not buy for cash, and its farmers had to sell to others, including ACA. Yet, in both cases, although the contract farming company broke its contract, most farmers stayed with them. ACA head Rachel Grobbelaar says: "You have to build relations with the farmers. A lot is based on trust; we trust the farmers and they must trust us." Rei do Agro has a Zimbabwean management, and the person it hired for liaison with contract farmers was a local man who had worked for Clusa and was trusted by the community. As we will also see in the next chapters, developing personal relations and trust with local communities is central for not just contract farming, but for any farming investment.

Some emergent farmers

Three factors seem to characterise the most successful of the emergent farmers:

- 1) They reinvest profits in production. So far, very few are doing this, and most remain totally dependent on credit.
- 2) They are diversifying, to spread risk, costs and income. Many have at least started trading, buying crops from their smaller neighbours.
- 3) They have been previously employed.⁶⁹

Armando Katxava in Lioma farms 12 hectares, of which he used 7.5 ha for soya this year. On contract ACA prepared 4 ha and Katxava cleared the rest manually; he has 15 permanent staff and hires additional day labour. A junior administrator in a local school, he began trading in used

⁶⁸ The District Development Fund is still known as the "7 million" because the original government grant was 7 mn MT per district.

⁶⁹ A point first made to us by Jake Walters of TechnoServe.

clothes as well as maize and beans, and growing 1 ha of maize for sale. With the arrival of soya he began producing and expanding, and with the profits opened a small shop and bought a pick-up truck. He then expanded into irrigated horticulture to ensure an income and keep his workers busy throughout the year. He has not borrowed until now but instead reinvests profits; all of his spending is in cash, even the ACA land preparation. He has a provisional title (DUAT) for 26 ha. He is taking part in a pilot project with TechnoServe, which will allow him to buy a tractor with a 50% discount; he must pay 10% in cash and borrow the rest from a bank.

Alberto Muchenguete was part of a government survey team in the colonial era who came to Lioma when it was being laid out for Portuguese peasants in the early 1970s, and later worked for the state farm that took the land when the settlers left at independence. He was one of the biggest farmers of the 2010/11 season, producing 24 tonnes of soya from 20 hectares. Clusa provided substantial support, including ploughing and helping to arrange a loan from Banco Terra. After he repaid his loan, he invested the remaining profits in his houses and in "buying" land in his home area in Manica. So a 2011/12 crop was totally dependent on credit.

Clusa helped a group of 13 emergent farmers to negotiate a two-year loan of 1.8 mn MT (\$60,000) for working capital from the District Development Fund (FDD, the "7 million"). But the three-way negotiations and Clusa and state bureaucracies were complex and the contract was only signed in February 2013 and money disbursed from 30 April. But soya had to be planted in December. For Muchenguete this created problems. Clusa ploughed 20 ha on credit, and Muchangete hired more than 100 people to level the land and plant – in early January, already three weeks late. Weeding started, but he ran out of money after 12 ha had been weeded – despite his substantial income the previous year. The loan money arrived just in time to hire workers for the harvest and to rent a thresher, but late planting and late weeding left him with only 9 tonnes of soya and no profit.

Muchenguete is a good soya farmer, but unlike Katxava he is not yet reinvesting or diversifying, and remains totally dependent on credit. Several people we interviewed told us "credit is a trap." But will more people invest profits in their own working capital?

Development of small-scale commercial or emergent farmers is central of the soya model. This, we noted earlier, requires changed thinking by the farmer, including the ability to plan and save, calculate profit and loss, increase production areas, hire labour, and invest. These changes do not happen quickly. Some people with formal employment experience can move more rapidly, but for most of even the larger and more successful farmers this is a long and slow process, requiring repeated farm visits and discussions by agricultural extensionists and business advisors over several years.

Three contract companies

Once the international public sector had proved that soya could be profitable, three companies began to promote contract farming in 2011. Each has developed community links but has a different farming structure. The biggest is a British company, African Century Agriculture, which bought the Mozambican company Frango King, and is raising soya to feed its own chickens. Rei do Agro is a US investor. Both African Century and Rei do Agro are doing a mix of contract farming and their own production, and both have support from the aid industry. The third company is Alif Quimica, a Mozambican edible oil producer, which is doing share cropping.

ACA (African Century Agriculture), Frango King, GETT. Frango King⁷⁰ was started in 2001 by South African Gary O'Connor and his Danish wife Tania Skytte, with partial support from the Mozambican small business investment agency GAPI. Frango King became one of the biggest chicken producers in the north. It was buying local soya for rations, and moved into contract farming to ensure its supplies. The company was sold in 2009-11 to African Century⁷¹, an

⁷⁰ The formal company name is GETT Lda, which it used for its soya buying. In what appeared to be a land dispute, the couple were notoriously accused in 2003/4 of organ trafficking by a Brazilian catholic lay missionary. There was no evidence and the missionary was expelled from Mozambique, while the couple bravely stayed and continued to develop the business.

⁷¹ Jonathan Chenevix-Trench, former Morgan Stanley International chairman and chief executive, and Henry Pitman, an old Etonian whose great, great-grandfather invented shorthand, formed the African Century Group, a privately owned investment company, in 2008.

investment company registered in Mauritius and based in London. The company has since received \$11 million in funding from Norfund⁷², partly for Frango King and soya production.

ACA is the largest contract farming company in Gurué, and was initially supported by Swiss aid through InovAgro, in a three year contract. Half of the machinery is owned by InovAgro and half by ACA. In the first year, the Swiss pay 70% of running costs for contract farming, 50% in the second year, and 30% the third year, with the rest covered by ACA. 2011/12 was the first year, and ACA had 844 contract farmers on 1250 ha. It did mechanical preparation of 350 ha. They argued that because soya planting is very shallow, it is not necessary to plough, so they only used a disk harrow, and then mechanical planters. Zimbabwean seed was imported and inoculants used. Those who did not have mechanical land preparation were given seed and inoculant, and opened land by hand. Half had credit from a microfinance bank backed by the Swiss, and half had ACA credit.

For the 2012/13 season, ACA did mechanical land preparation and seeding only for farms of over 2.5 ha, with just seed and inoculant provided to small farmers; some credit was provided to cover *ganho ganho* costs. ACA bought 1,750 tonnes of soya and maize from contract farmers in Gurué in 2013.

ACA has shifted to doing some of its own production, and in December 2012 signed an agreement with the Swedish-backed Malona foundation in Niassa to take over 3,500 ha of the old Matama state farm, near Lichinga. In the first season, 2012/13, 800 tonnes of soya were produced. "We will always focus on outgrowers," explains ACA head Rachel Grobbelaar, "but our own land gives us a guaranteed crop."

Rei do Agro. A US investment company whose only other experience is in Ukraine, it has hired Zimbabwean management for a project that mixes own production and outgrowers. On the edge of Gurué district, it has 2,500 ha of dense bush which had been little used during and after the 1982-92 war and must be cleared. It initially failed to attract sufficient investors so started slowly, although it has now invested \$5 million.

The long-term plan is that most soya will come from their own production, and the rest from outgrowers. Chishamiso Mawoyo of Rei de Agro says: "we have to move away from the old model having your own farm which is large and exclusive, to move to smaller farms that are inclusive of the community." 2011/12 was the second season for its own soya and it planted 160 ha; 2011/12 was their first outgrower season with 30 farmers on 180 ha; they had come from Clusa, had 4 to 8 ha, and were known to be good farmers. Seed and land preparation was done by Rei do Agro on credit; 90% was repaid.

For the 2012/13 season, it farmed 700 ha of its own, nearly half of its 1500 arable hectares, and produced 1.8-2 t/ha. It had 62 outgrowers farming 300 ha of soya; of this Rei do Agro ploughed 200 ha of the larger farmers. There were two large outgrowers with 24 ha and 25 ha; one of them, Genesio Daglasse, made an estimated profit of \$15,000 from soya from Rei do Agro and had another 8 ha on contract to ACA. In addition, there were 17 growers with 5-10 ha. However, Rei do Agro was short of money during the buying season, and was unable to buy; it took payment in soya from its contract farmers who then sold the rest on the open market, including to ACA. Rei do Agro recently received agreement on a \$750,000 loan from USAID under the New Alliance for Food Security and Nutrition, which will be used for a study on developing dams for irrigation.

Alif Quimica. A Mozambican company which recently re-asserted control of company land abandoned during the war. The land was occupied by farmers after the end of the war in 1992. Rather than contest that occupation, it has set up a contract farming system with the people on its former land, providing ploughing and seed for both soya and sunflower. In addition, it is reported to have allowed some other farmers to enter the land on a sharecropping basis. In the 2011/12 season it had 155 farmers on 300 ha.

Two plantation companies

The success of soya has created a land rush, with outside investors looking for land while local producers are anxious to expand. "Land conflicts are already a problem, and will become much more serious," the Gurué Permanent Secretary Tito Celestino, told us. In areas such as Ruace,

⁷² Norfund is the Norwegian Investment Fund for Developing Countries and is owned by the Norwegian Ministry of Foreign Affairs.

near the old CAPEL state farm at Lioma, there is already a shortage of land for would-be emergent farmers because of land allocated to big companies. This highlights the theme of this book – should land be given to large industrialised plantation agribusinesses, or to small and medium commercial farmers? In rich areas like Gurué, choices are already being made.

There are two large companies, each of which has been given 10,000 ha of land from the old CAPEL state farm.

Agromoz – Agribusiness de Moçambique. The newest entrant was only formally announced on 6 September 2012, Agromoz is owned by Intelec Holdings (a Mozambican company part owned by President Armando Guebuza), Grupos Américo Amorin of Portugal (which owns most of Banco Unico in Mozambique; Intelec has a share in the bank), and Pinesso (a major Brazilian soya producer). It is managed by the Brazilian part owner Pinesso on the highly mechanised Brazilian model, it grew 500 ha of soya, cotton and rice, and had cleared 2000 ha in 2012/13.

Hoyo-Hoyo was the first very large soya farmer, in Ruace, Gurué. It was set up by Quifel, which is which is controlled by Miguel Pais do Amaral, a Portuguese aristocrat and racing car driver. Quifel also owns LeYa which in turn owns two of the most important publishers in Mozambique, Texto Editores and Ndjira. In December 2009 the Council of Ministers granted Quifel 10,000 ha of the former Lioma state farm.

The project was controversial from the first. It was designed to be funded mainly by other investors. The invitation to investors issued in November 2009 said "The Project looks extremely appealing with projected returns of 41 percent per annum. ... The Company, through its subsidiaries and affiliates, has the concession rights for a period of 50 years, with an option to extend it to a total of 99 years, over two locations in Mozambique totalling 30,000 hectares of land." At the time, the company had no concessions in Mozambique, although it later gained the 10,000 ha in Lioma (it had applied for 23,000 ha, but this was cut to 10,000 ha by the Council of Ministers) and 5,000 ha in Caia, Sofala province.

Standing on the farm on 21 August 2012, Rui Laurentino, then CEO of Quifel Natural Resources, shrugged, waved his hands, and said the document "talks of 41% but it was never real. Investors would never trust 41%. They will always discount it." And in an interview the evening before he said that even though the document said they had 30,000 ha, in fact that was "only an intention". But he continued: "I believed we had 30,000 ha". Antonio Botelho, general manager in Mozambique, added: "the original plan was paper – unrealistic."

Perhaps because of this, the project did not attract sufficient investment funds and so little was done in the first two years – the period in which Mozambican law demands substantial progress on the plan on which the land concession is based. The law also requires that a formal demarcation of the land, with marker posts, be done within a year – in this case by December 2010 – but Laurentino admitted in 2012 it still has not been completed.

The area has been badly affected by the 1982-92 war; the state farm was abandoned due to Renamo attacks in 1986 and most people fled. By the end of the war the state farm was heavily overgrown, but people returned and began to clear the land. By 2008 many had occupied the area in good faith for over a decade, which under Mozambican law gives them squatters' rights. Clusa supported an association of eight soya producers on 40 ha in a corner of the old state farm. Quifel was given the land by the Council of Ministers despite the rights of the occupants. For the 2010/11 season, Clusa had ploughed 300 ha on the old state farm, in part with funding from the Bill & Melinda Gates Foundation. Suddenly in December 2010 Quifel rushed to clear at least some land, re-ploughing 100 ha already ploughed by Clusa and destroying soya plants that were already sprouting. Very little was actually planted by Quifel, however.

Laurentino explained: "We started closest to the road. The people had also started closest to the road, but we were not going to open a road to the interior of our concession," so they used the same land. He knew it was cleared land, "but we did not come here to clear virgin land".

Tension with the community has increased. But Laurentino stressed: "We don't meet with the community. Let us be clear – we meet with the government." He continued: "I am here to be a farmer. ... We don't go to Ruace and have a gathering of people. We interact with government".

The community has always claimed that much of the state farm is being used by local people – their houses are outside the old farm but their plots are inside. Initially some people were simply forced off the land, and resistance and discontent increased. People said they were prepared to move, but only if new land was ploughed for their first season. Hoyo Hoyo agreed, and

nearby land was allocated for resettlement, but it had to be cleared of trees and no land preparation was done.

When President Armando Guebuza visited Lioma on 24 April 2012, he went to Rei do Agro but not Hoyo Hoyo.

Hoyo Hoyo was finally forced in July 2012 to do a full survey with the community and GPS mapping of the 3500 ha the company said it wants to use in the coming season. The survey identified 836 farmers with 1945 ha. The district administrator backed the community, and at a public meeting said that no one had to move until they were given an alternative plot where the land had been prepared.

In November 2012 Hoyo Hoyo was taken over by BXR partners⁷³ which removed the entire local management in November 2012. Gordon Cameron, the son of an Argentinian farmer and head of BXR Partners' agribusiness activities, said: "When we turned up, there was a lot of conflict. ... We underestimated the social issues." As predicted, the old management failed to clear the land promised for farmers who had been using land inside Hoyo Hoyo. Only 40 ha were cleared and families continued to farm 366 ha of former state farm land.

Cameron says that BXR are moving to a more Latin American model. They immediately moved to no-tillage and planted 1000 ha, with a disappointing yield of 1.5 t/ha. The aim was to do 2500 ha in the next season.

Finally, he points to his own background growing up on a large family farm. He emphasises that farming investment must be long term – families looking to the next generation or institutional funds who have 20-30 years for the investment to mature. "Private equity and hedge funds with a view of less than five years have given agricultural investment a bad name." Farming investors must want to protect the land and ensure it will produce for the next 50 years. Short-term investors just mine the soil and destroy it.

Implications of the soya success story

Soya is seen as a success story – a profitable smallholder crop which is taking off rapidly. Soya beans are now in demand to feed chickens and soya grows well in Gurué and surrounding districts; in these areas, substantial increases in production are possible. Nearly 1000 farmers in Gurué have become small and medium commercial farmers because of soya. Four conclusions can be drawn.

First, with adequate support it is possible to create small and medium commercial farmers. This is a viable development path.

Second, to make this happen required a substantial level of support from the "international public sector" – governments, donors and NGOs. It was the successful push of a technological package from 2004 by Clusa, TechnoServe, Gates, Norway, Switzerland, the United States, International Institute of Tropical Agriculture (IITA) and others that turned it into a profitable crop. The private sector has only entered more recently, in particular with contract farming in partnership with NGOs and donors – the international public sector.

Third, donors and NGOs cannot see this as an easy win or a box-ticking exercise. Increasingly, we see donors saying they want to "facilitate" – building links between farmers and producers, associations, etc. But even now, soya needs muddy boots in fields and not "facilitation". Two agencies told us that they had tried to gain support for programmes to help small groups of emergent farmers for an extended period, but donors refused. One said: "We picked 10 farmers in Gurué with more than 6 hectares and wanted to work with them for 5-10 years, but the donor wanted 10 different farmers each year for five years. Donors want big numbers, but it is useless to give just one season of support."

Fourth, at least in prime areas, land competition is already a problem, and the government should be increasingly cautious about giving large tracts of prime land to foreign investors. Agromoz and Hoyo Hoyo might succeed, but ACA (Frango King) and Rei do Agro offer a model

⁷³ BXR's only other African agriculture investment is Malawi Mangoes, which has 100 ha of own production and 2000 outgrowers. BXR has \$6.5 bn in investments. Zdenek Bakala, a US and Czech citizen and his family, hold 50% of BXR. Billionaire Bakala made his fortune through eastern European coal, and now also owns the Omega Pharma - Quick-Step cycling team, which includes British sprinter Mark Cavendish.

which does more to promote local development – relatively small areas of own production while most of the soya comes from small and medium contract farmers.

A related question arises, because only a small part of rural Mozambique is suitable for soya. Can this experience be replicated with other crops in other places, or is it specific to soya? The "soya model" can be characterised by:

- 1) There is a focus on a single crop.
- 2) There is an assured market. The crop has high demand and high profit.
- 3) The crop is suitable for some level of mechanisation and thus is appropriate for medium commercial farmers with 4-20 hectares.
- 4) A technology and support package was provided for a decade by the international public sector.
- 5) Support involves more than just advice and facilitation, and includes concrete support with seeds, ploughing and marketing.
- 6) Only after the package is proven to be profitable is it slowly taken over by the private sector, through approaches such as contract farming which are often initially public-private partnerships.

It is worth comparing soya to other two crops which have been successfully promoted. Soya is only the third crop to have extensive contract farming in Mozambique, following cotton and tobacco. Tobacco has been promoted largely by a single multinational company, and has so far done the most to reduce rural poverty. It fits a pattern of a guaranteed market with a technology package from outside. Public sector involvement has been to give one tobacco company monopoly access.

Cashew has been revitalised over a decade with a government-donor-private sector partnership which put emphasis on the value chain and developing the local market by introducing new technologies and new factories. Key was a decision in 2000 to go against a 1995 World Bank edict that government could not protect or support cashew. Nearly a decade of international public sector involvement was essential until it was shown to the private sector that cashew processing could be profitable; the state is still involved providing tree seedlings and spraying, and restricting export of unprocessed cashew until local industry needs are satisfied.

Cashew and tobacco share most, but not all, of the characteristics of soya. Both tobacco and soya are annual crops where small family farmers as well as small and medium commercial farmers have been supported. One key difference is that tobacco was promoted by an international agribusiness, while soya was first promoted by the international public sector. Cashew trees take three to five years to become productive and a cashew plantation would take seven years to be profitable, so cashew is still only a smallholder peasant crop because there is no long term domestic finance to develop larger areas of trees. However cashew has had the support of both government and the international public sector, albeit in the face of some opposition by international agencies.⁷⁴

So, can the soya model be replicated elsewhere? Soya is a specific crop and the conditions are particularly propitious. But in the rest of this book we will argue that the soya model is more broadly applicable. Choosing a single crop, making it profitable and ensuring a market, providing the technological and support package over a decade, and building up small medium commercial farmers is a package looks possible in a number of other areas. This will always be a public-private partnership, with the public part coming first and the global public sector doing the heavy lifting; the private side slowly takes over only when it becomes profitable.

⁷⁴ Joseph Hanlon and Teresa Smart, *Do bicycles equal development in Mozambique?*, 2008, chapter 5.



Elizabeth and Peter Waziweyi with sacks of seed behind them occupying nearly all of the dining room. Typical of real commercial farmers.

5. Making money farming in Manica

"I earn more from my pigs than from my ordinary salary," a prominent academic told us. Others have left government and private jobs for commercial farming. In stark contrast to our research visit seven years ago, some Mozambicans now see that money can be made from farming. In Manica province there are 9000 small and medium commercial farmers (often called "emergent farmers").

There are two keys to the growth in the number of emergent farmers. First has been hands-on management and step-by-step progress. Even the academic tends his pigs every morning before he goes to work. Second has been outside support, often linked to contract farming.

But two groups are failing. So far no large foreign agricultural investors have succeeded in Manica. Prio Foods, with 24,000 ha and €6 million investment, was the latest to fail, in January - following the trail blazed by Sun Biofuels and others. Pouring in money and smart foreign managers has not, so far, been a recipe for success. The other group who are not productive are the elites who grab high quality land along the main roads and do not use it.

Compared to neighbouring Zimbabwe, 9000 small and medium commercial farmers is tiny. But it reflects a change in attitude, and perhaps the neighbour's influence, with some of the new farmers going to Zimbabwe for meetings or to buy supplies. It also reflects a growing culture of planning and reinvestment. As we note below, there are huge problems of lack of capital and limited support for small and medium farmers. But the growth of emergent farmers is significant, and could point a way forward.

Manica province is one of Mozambique's richest agricultural areas. But wars with white-ruled South Africa and Rhodesia from 1976 to 1992 hugely disrupted agriculture and commerce. Policy in the post-war period was that farming was for the private sector and that state intervention would disrupt the market. There were short-term interventions by aid agencies, but the lack of consistent and structured support meant post-war farming recovery was slow.

No outside solution

The problems confronting agriculture and poverty reduction seemed overwhelming and intractable: insecure markets, inadequate inputs, little technical assistance, and no credit and investment. The first response from government and others was to attract foreigners with skills and capital. After Zimbabwe's land reform in 2000, Mozambique welcomed white Zimbabwean farmers who had lost land and offered them land in Manica. Of 50 original farmers, just three remain. Mozambique and donors have been encouraging large corporate agribusiness investment, but so far, none has succeeded. What went wrong?

The first problem is attitude. One of the remaining white Zimbabwean farmers said "big companies with their expatriate culture simply don't understand. They think they can buy success." A Mozambican farmer said you cannot start big: "You have to grow slowly with the business and the farm. It takes time." Another comment was that US and European investors have a

fundamentally racist and neo-colonial attitude – they think that white experts can fly in and do things which Mozambican farmers are incapable of doing.

The second problem is much lower support than was offered to farmers in the past, and is not specific to Mozambique. *The Economist*⁷⁵ reported that of 18 white Zimbabwean farmers who settled in Nasawara state, Nigeria, seven years before at the invitation of the then governor, only one family was still there. The survivor, Bruce Spain, explained: "There's just no organised marketing here. No marketing boards, nothing – in Nigeria you're on your own. In Zimbabwe you knew what your pre-planting price was – and the government guaranteed to buy what you grew. There are no support structures...In Zimbabwe you'd send a soil sample to the fertiliser company and they'd tell you what sort would be best. There's nothing like that here." And there is no credit so it is hard to find investment capital. In our 2008 book *Do Bicycles Equal Development in Mozambique?* we wrote a chapter "The Manica Miracle is Over" which pointed to Zimbabweans failing in Manica for exactly the same reasons. And two of the white Zimbabwean farmers remaining in Manica made the same point: In colonial Rhodesia "there was 20 year credit at 3% interest for irrigation and other infrastructure, and five years credit for machinery. There is nothing like that here in Mozambique." Indeed, policy favours foreign investors over domestic small and medium companies; UNCTAD's Investment Policy Review for Mozambique calls for "reform of fiscal policies which currently favour mega-projects."⁷⁶ Nevertheless, at a Manica province investment conference in South Africa, the investors said Manica would need to offer even more incentives if they expected foreign investment.⁷⁷

Struggling against a climate in which white Zimbabwean farmers and European investors fail, and which South Africa investors say is unattractive, it is all the more remarkable that 9000 Manica commercial farmers are succeeding. In the rest of this chapter, we show how it has happened, point to important changes over the past six years, and highlight ways forward.

Manica's emergent farmers

Peter Waziweyi, known to everyone simply as "Senhor Peter," has 80 ha and his main crop is litchis⁷⁸ – and litchi seedlings for other farmers. His profit last year was over \$30,000, and he now has two tractors. He is a Mozambican with a business degree from the University of Zimbabwe. He later worked for an NGO in Chimoio, but in the late 1990s took up farming in Catandica. Now, he says: "I am a businessman; I want profit and income". Senhor Peter is founder of the Catandica Emergent Farmers Association, which now has 10 members. His wife Elizabeth is a businessperson and agro-dealer.

Jaime Time Chilumbana had 30 hectares near Catandica on which he produced maize seed, which gave him a profit of almost \$10,000. In 2013 he switched to 10 hectares of soya and 10 ha of maize seed, which should give a similar profit. With his profits he has invested in a maize mill and opened a small rural shop.

Antonio Xavier had worked on a state farm in the 1980s but after the war obtained land near Sussendenga and began growing tomatoes for sale in Chimoio and Beira. He realised that tomatoes sold for five times as much in Beira as in Sussendenga, and that if he joined with other producers they could profitably hire a lorry to go to Beira to sell their crop. Seven years later, the Siwama forum is a collection of 53 associations with more than 1000 members. And Xavier is both president of Siwama and the largest farmer, with 70 ha of maize, soya, tomato and cattle.

These are large commercial farmers, sometimes called "emergent farmers". There is no formal definition of this term, so in chapter 3 we start with the median cash income in rural Mozambique is a tiny \$23 per person per year, or 3400 MT (\$113) per family per year. We take as a rough definition that a small farmer produces primarily for the market and has sales of five times that, or 17,000 MT (\$567) per year. For us, a large commercial farmer has cash sales of more than 40,000 MT (\$1330), which provides a net income or profit of more than \$1000 per year. We use "emergent farmers" to mean all commercial farmers, although others only use it for large commercial farmers. To be a commercial farmer as a grain producer requires more than 5 ha of

⁷⁵ The Economist, London, 13 April 2013.

⁷⁶ UNCTAD/PRESS/PR/2013/14 2 May 2013

⁷⁷ *Notícias*, 29 April 2013.

⁷⁸ Also spelled lychee, lichi, or leechee.

farmland, but more intensive crops such as vegetables and bananas just a half hectare can be enough to be a commercial farmer.

There is no typical emergent farmer. Many are older and have experience as workers in other sectors, but some are young and some are recent graduates from the new agricultural training institutions. Manica borders Zimbabwe and there is extensive movement across the border; experiences of, and attitudes toward, small scale commercial farming in Zimbabwe seem to have had some influence.

And there is no single crop. Emergent farmers we interviewed were growing soya, seed (maize and soya), litchi, bananas, vegetables, pigs, and goats.

Undercapitalisation and lack of credit is obvious. There are a few tractors. South of Chimoio, near Sussendenga, animal traction is quite common; north of Chimoio near Catandica, animal traction is used much less and most land preparation is done by hand (with a hoe – *enxada* – and often with hired labour), even of quite large farms.

Siwama

Siwama is a forum based in Zembe, south of Chimoio, mentioned above. It groups 53 associations with more than 1000 members, and is important at four levels. Some of its members are emergent farmers, the association itself is a producer, by bringing together large and small farmers it is creating important collective marketing power, and it has come into conflict with large investors.

Only founded in 2006, the association is largely for marketing and input supply. It sells maize and soya from its members to Abel Antunes for chicken feed, and to the World Food Programme. This year it has an 530,000 MT (\$18,000) loan from Banco Oportunidade for working capital, so it can pay cash to its members.

Siwama's main project now is promoting soya production, with the assistance of Technoserve. It is producing seed for its members and offering the seed and fertiliser on credit. Last year it expanded seed production too fast. Threshing soya had traditionally been done by hand, which takes a long time, and the unthreshed seed was affected by a fungus that reduced germination. So Siwama bought a thresher, to use first for its own soya, and then for members. It has also bought pipe and pump to irrigate the seed production. Siwama seems to be learning from its mistakes and staying together.

Siwama explicitly encourages farmers to increase their size, and prioritises larger farmers with seeds, equipment and marketing.

In an era in which government and many donors implicitly prioritise large foreign investment, Siwama represents an alternative. And because it is working in an area with good land, it has twice been harmed by large foreign investors:

Land conflict: Siwama wants to expand its seed production and 45 ha just south of Sussendenga had been identified for this; Siwama was in the process of obtaining the occupancy licence (DUAT) and actually began planting last year, when suddenly the land was instead allocated as part of a 183,000 ha package for the Portuguese company Portucel to plant trees to make paper bags for Europe. There was no public discussion about the alternative uses of this land, nor about allocating good farmland for trees. Other Manica farmers have also lost land to Portucel. In Barué district, farmers in Chuala-Honde claim that their farmland was taken away and given to Portucel, without discussion or compensation, but with the connivance of district officials.⁷⁹ Barué has some of Mozambique's best farmland, and again there has been no discussion of using high quality land for trees.

Failure of indirect support: Using aid money to support large investors to work with Mozambican farmers is part of the strategy of several donors. AgriFuturo is a USAid project in Mozambique and one of its flagship programmes was to work through a large Portuguese investor, Prio Foods, to support it to work with emerging farmers. Farmers, particularly Siwama members, with more than 10 ha, were to be assisted by Prio and Technoserve for mechanisation and planting. But Prio collapsed and some USAID funded machinery was still locked up in a Prio warehouse in mid-2013. Siwama showed its power on the ground by forcing a collapsing Prio to plough some land before its final demise. Would it not have been more productive for AgriFuturo to have simply funded Siwama? Why did it need a foreign agribusiness as intermediary?

⁷⁹ Cláudio Saute, "Group Portucel acusado de usurpar machambas para plantar eucaliptos", CanalMoz, 7 January 2014.

Finally, Siwana points to an important exception in Manica aid history. It is interesting how few of the aid projects that we saw in our 2006 visit made any impact or left any trace. One exception was a USAID-funded joint project of three US NGOs, ACDI/VOCA, Clusa and TechnoServe. Siwama president Antonio Xavier said it was these three NGOs that first taught them how to calculate costs and determine if they were making profits, which he underlines as absolutely central to their progress. The NGOs then helped them form the association. Finance Committee head Rui Calcov, himself a former textile mill worker who now has 50 ha, pointed to the importance of the joint project sending six of their people on a visit to successful associations in Nampula province.

Siwama is not the only successful association in Manica. Others are succeeding as well, usually because they are linked to markets and value chains. Many international NGOs have tried to organise groups, often failed because they were organised in isolation, in the belief that organisation itself is good. But where groups have a clear benefit because they are linked to markets and value chains, more become viable.

Contract farming successes and failures

For the would-be emergent farmer, the challenges are daunting. Markets are lacking and prices low. The farmer carries all the risk of weather and uncertain markets. Inputs are expensive and hard to find. There is little technical support. And there is no rural credit, either for infrastructure such as irrigation, or for inputs such as fertiliser. Government policy has been to support large outside investors, who are expected to bring everything with them – markets, technology, inputs, and money. In such unpropitious circumstances, it is remarkable that there are 9000 emergent farmers in the province.

Contract farming is often seen as the private sector response to lack of government support, but in Manica it started very badly. Tobacco became the first important contract crop in 2002. Foreign tobacco companies moved out of Zimbabwe after the 2000 land reform there, and 50 white Zimbabwean farmers and groups moved across the border to Manica, many encouraged by the tobacco companies. Soon 13,500 Manica farmers were cultivating tobacco. But the tobacco companies decided Tete and Niassa were perfect for tobacco but Manica was not suitable, so withdrew support for farmers there – abandoning these 13,500 small farmers. Meanwhile, as noted earlier in this chapter, nearly all the Zimbabweans failed.

Several other contract projects came and went: 3600 farmers growing sunflower, more than 3000 farmers growing paprika, and over 100 groups organised to grow baby corn and other export vegetables. All these projects failed, although many of the emergent farmers gained their start through these contract programmes, and some tobacco farmers have moved to soya. The most recent failure is Prio Foods, which collapsed in January 2013, and had 800 outgrowers for sunflower and soya.

Two contract companies, Companhia do Vandúzi and Semoc, have survived and are important supporters of small and medium commercial farmers.

Companhia do Vandúzi

High areas of South Africa, Zimbabwe, Zambia and Kenya produce vegetables for shipment by air to Europe and the market grew substantially in the 1990s. Manica also seemed suitable, despite lacking good transport infrastructure⁸⁰, and Companhia do Vandúzi⁸¹ was established in 2003 with a \$23,000 grant from the US Department of Agriculture. It was set up to be a packing house and shipping company, with local contract farmers. It was taken over in 2005 by Mozfoods, which had been set up as a development company by Lord Sainsbury.⁸² Although contract farming was

⁸⁰ A 2009 study noted that Companhia do Vanduzi, "faces high production and transport costs because of the need to rely on diesel-powered irrigation and a requirement to ship its products 16 hours by road to Johannesburg to reach a suitable international airport for export." Chris Isaac, "The Beira Agricultural Growth Corridor Concept Note", London: Infraco, probably 2009.

⁸¹ Originally named Waluro, and only renamed Companhia do Vandúzi in 2007.

⁸² David Sainsbury, of the British supermarket Sainsbury family, was made Lord Sainsbury in 1997 and served as Minister of Science and Innovation in the UK government 1998-2006. He set up the Gatsby Foundation in 1967. In 2004 Gatsby created Aquifer to develop agribusinesses in Mozambique; investment will be long term but Aquifer expects companies to eventually be profitable and all profits will be reinvested in

always an important goal, Mozfoods immediately stopped all contract farming, leaving the first set of contract farmers without a market. After it established its own farm and made the pack house and supply chain function, it began to take on contract farmers and is now has 500.

As well as exporting to Europe and South Africa, it sells to the mines in Tete and gas companies in Cabo Delgado. The company is large enough that it can guarantee to supply, and import from South Africa what it cannot grow itself. That guarantee is critical to winning those contracts.

It has taken more than a decade, but Companhia do Vandúzi says it is now "Mozambique's largest exporter of fresh produce."⁸³ It has 500 contract farmers growing piri piri (chillies), herbs, broccoli, mange tout and sugar snap as well as 600 ha of its own farms. It has also restarted contract farming of baby corn. It employs 500 people in its pack house and 1000 on the farms.

Some of Mozfoods' farmers are larger and others are keen to expand. But most remain small. Most baby corn growers have only 1 ha and chilli producers only 0.5 ha. Of the contract farmers, 30% are women – many are second wives or single women. Most have a plot for food for the family, and many hire labour to work the family plot while they work the contract farming plot. In 2011 the best of the contract farmers sold a tonne of piri piri for 18,000 MT, which puts her into our category of small commercial farmer. It is, however, all relative. She earns 18 MT/kg (\$0.60, £0.36/kg) from her piri piri which sells in a London supermarket for 50 times as much, 900 MT/kg (\$30, £18/kg).

The packhouse employs 500 people working two shifts, and the combination of packhouse workers and contract farming has had an impact locally. There are 2 ATMs outside the Vanduzi packhouse, and many of the contract farmers and packhouse workers now have bank accounts. There are many more burnt brick house with zinc roofs and more use of electricity.

As well as providing inputs, Mozfoods also provides training and extension services. When growers in Rotunda, Sussundenga, had a problem with thrips (1 mm long insects), Mozfood sent a spraying team. Mozfoods guarantees to buy at a fixed price, which means it carries the market risk. But global markets can be very variable; baby corn had a low price and was not profitable, but recently the price has risen and Mozfoods now has more than 10% of the British market.

Mozfoods aims to have most of its production from smallholders, and use its own farm primarily for research and demonstration. There are two reasons. Their own farm has higher fixed costs, and their own yields are not as good as those of small farmers. "Small scale farmers get higher yields. It's their livelihoods. It is harder to get a hired worker to do as well," explained Johnny Bottomley, Mozfoods Director of Marketing and Sales

Semoc

Seed production is often done on contract, and the state seed company Semoc (Sementes de Moçambique)⁸⁴ has 141 maize seed producers in Manica province, according to production Inspector Virgilio Pascoal. Of these, 70% have more than 10 ha and most are between 10 ha and 15 ha, but the largest has 80 ha. At least one has a tractor and three hire tractors; only eight use animal traction. All the rest do land preparation by hand, which can involve teams of 30 people or more. A few use fertiliser, but most do not. All are individuals; Semoc does not work with associations. Semoc is steadily shifting to larger farmers; in 2012/13 the minimum was 5 ha and in 2013/14 it was 10 ha. This is a conscious attempt to promote larger farmers, and Pascoal says they hope that smaller farmers will increase their area rather than drop out.

The tractor and animal traction farmers produce between 1.5 tonnes and 2 tonnes per hectare; the others average 1.2 t/ha. Both are above Mozambican average, but not high by regional standards.

Semoc advances money for land preparation, weeding, and harvest. But Pascoal notes that increasingly producers are saving money from one year to the next, so that they can pay their costs without borrowing and paying interest.

Many of these seed outgrowers are now emergent farmers. A farmer with 20 ha and 1.5 t/ha would produce 30 tonnes of maize at 9000 MT/t (\$300/t), or 270,000 MT (\$9000), of which the

Mozambique. Aquifer owns Mozfoods which in turn owns Companhia do Vanduzi and Moçfer Indústrias Alimentares for rice production and processing.

⁸³ <http://www.vanduzi.co.mz/en>

⁸⁴ Semoc was privatised in 2000, went bankrupt under private management, and was renationalised in 2012.

profit could be 180,000 MT (\$6000) or more, which is a substantial amount of money. Some are buying motorcycles and other consumer goods. But others are investing. Pascoal reports that one grower has bought two minibuses from seed money and now runs a transport (*chapa*) service.

New contract farming

In the past five years there has been a range of new companies promoting contract farmers. In Manica, some are themselves farmers who have decided to expand through contract systems rather than growing the crops themselves. In part it is because of a new agency, AgDevCo, a UK based not-for-profit agricultural development company, which directly finances agribusiness hubs which support smallholder farmers either by creating markets or through contract farming,⁸⁵ discussed in more detail below. Because of the lack of agricultural finance, some existing farmers are turning to AgDevCo finance to support smallholders as a way to expand. The farmers supporting contract farming are very varied, and we detail four here.

Malcolm Clyde-Wiggins at **Frutimanica** is a highly successful farmer who produces his own bananas and has nine ingrowers or sharecroppers on 5 hectares. (An "outgrower" is a contract farmer who uses their own land, while an "ingrower" or sharecropper is a contract farmer using the contract company's land). The economics are good, even for the ingrowers. He estimates that it costs \$10,000/ha to set up a plantation and then \$5000/ha/year to maintain it – bananas need daily water and fortnightly fertiliser. A banana tree takes 19 months to mature, which means the set-up costs are substantial. But the banana tree will produce for 8 years. Production is about 60 tonnes/ha which at 5 MT/kg is \$10,000/ha, which gives a profit of roughly \$4000/ha. Initially, Frutimanica system allocated 0.5 ha per farmer, but the best farmers have shown they can do more. The plan is to move the 9 ingrowers on his land to become outgrowers on neighbouring land, and extend the irrigation system to include them, expanding at the rate of 15 hectares per year. More ingrowers would then be taken on, slowly expanding the production network.

Clyde-Wiggins' own banana plantation is a complex mix of himself, a Mozambican partner, and Matanuska (the banana company of the Zimbabwean company Rift Valley Holdings which has extensive interests in Mozambique), using land that was once part of a Lonrho gold mining venture. Bananas are normally picked green and then ripened; Matanuska ripens the bananas and exports, mainly to Zambia. Clyde-Wiggins assumed the domestic market would work that way. But it did not. Instead he discovered the women traders preferred to come to him, and choose and cut their own bananas. The banana "stem" contains up to 20 "hands" of bananas – consumers normally buy a "hand" in which each banana is a finger. But Clyde-Wiggins found that he had 40 or more traders coming to the farm each day, and demanding to choose and cut their own stems and take responsibility for ripening. He sells bananas at the farm gate at 5 MT/kg, and the traders can sell for 10 MT/kg or more,

The women traders coming to the farm have already had an unexpected impact on the ingrowers. The traders choose which bananas they want, and they choose the fatter bananas from the farmers who have best managed the water and fertiliser. The others complain, saying they worked hard and buyers should be forced to take some of their bananas, but Clyde-Wiggins stresses that commercial farming is for the market, and "the market" decided. A harsh lesson, but being learned by the best of the new farmers.

Meanwhile, Manica is one of the best places in the world to produce litchi, but it has a very short season, only November and December. By coincidence, this is the period when banana production falls in Manica (but not in Nampula, which produces all year). So the two crops go together. Clyde-Wiggins already has 1000 trees, and – again totally unexpectedly – traders wanted to come and pick their own litchis. At 35 MT/kg, the price is low compared to 90 MT/kg in Maputo, but profitable for the farmer.

So far litchi production is entirely for the local market, but with a growing number of producers and higher volumes, European companies are now expressing interest. Bananas and litchi underline the importance of a local market before trying to export. Once systems are working, the best fruit can go for export, the next quality for the local market, and damaged fruit can be pulped and used for juice. Producing purely for export is much more difficult and riskier.

⁸⁵ AgDevCo (www.agdevco.com) manages a Catalytic Fund (CF) which has recently been registered by the Bank of Mozambique as an investment company, which will take over some of these loans and investments.

Three other farmers doing contract farming in Manica have different organisational systems. **Panda Farms** is run by Lukman Hassam, who comes from an Asian-origin trading family, and he started trading in oil and oilseeds for his father's oil press. His father also has a farm, and Lukman decided to produce his own oilseed. He has 36 larger outgrowers (with more than 5 ha) and 150 smaller ones. His main products are soya, sesame, and sunflower. Jaime Time Chilumbana, cited above, is one of his large outgrowers.

Lukman produces seed on Panda farm and supplies seed and some ploughing to contract farmers (charging only 1250 MT/ha - \$40), sprays for contract sesame growers, and lends money to pay for day labour (*ganho-ganho*). Hassam does not charge interest to his outgrowers. His working capital is provided by a 500,000 MT (\$16,000) soft loan – interest is only 12%, one-third of what is normal for farm loans in Mozambique.

Soya is known to be highly profitable. Sesame can also be very profitable, but it is a difficult crop with precise timing for harvest and drying. Sesame sells for 30 MT/kg and production is about 700 kg/ha. With a sale price of 21,000 MT/ha and production costs of 5000 MT/ha, it can earn substantial profit if harvested and dried correctly. However sunflower had proved less profitable because the oil content of locally available seeds is too low.

Antonio Manjate is a former Semoc manager and is now a university teacher with a 400 ha farm, **Xicocha**, which he is developing as a base for in- and out-grower contract farming for soya and hybrid maize. He ploughs, provides seed and buys the production. He is using animal traction for ploughing, seeding, and weeding. He charges 2400 MT (\$80) per hectare for ploughing. Manjate points to two keys to success. His experience at Semoc taught him to control costs. And he stresses the need to make friends with his neighbours, which means he does not need guards and does not have thefts.

Johan Furie, one of the three remaining white Zimbabweans, is a pig farmer with his farm **Tsetsera** and with his own butchery in Chimoio, where he says he sells 1 tonne per week. He has only recently started with contract farming and now has a separate building with eight pig pens, each of which can hold 20 pigs. Each is managed by a different person, who receives 20 weaned piglets. Furie then sells the fully grown pigs from his butchery. So far this is an "ingrower" project, with people selected by the local chief. Furie stresses that management is key, and admits that the chief's pigs are better than his. The next step is for these ingrowers to become outgrowers with 80 pigs each, spaced in such a way that there will be a steady flow of pigs through the butchery. There is an issue, however, of whether local production can compete with cheaper imported pork from South Africa.

AgDevCo, markets and value chains

An important new funder is AgDevCo⁸⁶. Founded in 2009 and incorporated as a non-profit company, it has raised \$100 million and is working in five African countries. Through loans and investments, it provides "patient capital" – long term capital at concessional rates – to help agribusinesses to get started. In the Beira Corridor, it only funds projects that work with smallholders. Investments and loans include: ECA (detailed below) \$1 million, Moz-Agri \$544,000, Frutimanica \$300,000, Tsetera Pork \$200,000, Panda Farms \$125,000, and Phoenix Seeds \$1.2 million. Another key aspect of the work of AgDevCo and the Beira corridor has been building markets and value chains. It is working with:

Moz-Agri has opened a \$150,000 abattoir built on a five year loan and is becoming a major goat processor. Electricity reaches the farm because of a Danish rural electrification project. It currently slaughters 220 goats a week and sells 8 tonnes of frozen meat per month to a Maputo trader. So far, all goats are bought from the surrounding community, although it is beginning to also raise its own goats. Kalahari Red goats have been introduced to raise the breeding stock in the community, which has also been taught how to fatten and select the right young goats. Three local producers have also become large goat traders, selling to Moz-Agri.

Cervejas de Moçambique (SAB Miller) buys maize for Chibuku beer and cassava for Impala beer.

⁸⁶ AgDevCo (www.agdevco.com) manages the Catalytic Fund (CF), which has been registered by the central bank (Banco de Moçambique) as an investment company and which is taking over some of the loans and investments.

Tropigalia, Mozambique's largest distributor of branded food products, is being supported to sell high quality honey under its Gourmet brand.

Sumo+Compal, a Portuguese company⁸⁷, on 22 May 2013 opened its €8 million factory in Boane, near Maputo. It packages fruit juice made entirely from imported concentrates. The plan is to create a pulp plant, perhaps a portable plant which could be brought to producers in season, and produce pulp which would have a much lower volume and longer shelf life, and could be shipped to Boane to replace imported concentrate.

SóSojà produces soya milk and yogurt. Lucas Mujuru is a former Coca-Cola employee and has received assistance in 2009 from Adipsa (a now closed NGO) and AgDevCo now to buy machinery. To improve marketing, he buys plastic bottles and packaging materials in Zimbabwe. And he is supplied with soya by his own farm, and now a network of outgrowers.

The advances of commercial farming in Manica are impressive. Since the end of the war, 9000 farmers in the province have become small and medium commercial farmers. And with outside support, the number is growing – and with more support would grow much faster. In the previous chapter we pointed to the lack of mechanisation, which is also a problems in Manica. Our research in Manica pointed to two other constraints on the growth of commercial farmers: there are major linked problems with electricity and irrigation (discussed below), and staple food crops, notably maize, are not profitable for commercial farmers (considered in the next chapter).

Irrigation and electricity

Agriculture in Manica is largely rain-fed and the average rainfall is good. But the rainfall can be very variable, with gaps of one or two weeks of no rain in the middle of the rainy season, as well as drought years. Scientists predict that climate change will make rainfall more variable, and there are hints that this may already be happening in Manica. Commercial farming will require irrigation, at least to fill the rainfall gaps. The capital costs of irrigation can be \$3000 per hectare or more.⁸⁸ That is not unreasonable because extra production will more than justify the cost. But there are no soft loans for farmers to install irrigation.

Government does promote and support irrigation, but officials tend to prefer larger projects with bigger dams and lakes, serving thousands of hectares. But for small and medium commercial farmers, the need is for small dams serving 100 ha or less, which could be used by small groups of farmers and with small pumps. Such small dams can usually be built by agreement within a small community, whereas larger projects often involve constructing bigger lakes that force the resettlement of families.

Water is becoming as important an issue a land. Big plantation investors will demand access to water, and there will be competition for water between plantations and emergent farmers. The failure of Prio Foods in Sofala has been attributed in part to lack of adequate water. Probably the biggest recent investment in Nampula province is Matanuska, a large banana producer in Namialo (discussed in more detail in chapter 7). Bananas have to be irrigated 14 hours a day so water is a serious constraint. Matanuska president Jack Dwyer argues that water will be the biggest constraint for agricultural development in Nampula. The company built a dam on the River Mesica in Netia, 28 km away from the plantation. Water is brought down the Mesica and Monapo rivers in an open system which can be used by others along the river. In 2011 there were complaints that the company has still not resettled the 56 families forced to move for the new dam, and had not built the health post it promised.⁸⁹ The dam is only large enough to hold water to irrigate 3000 ha, so the company is already looking for other possible dam sites.

Usually, water must be pumped. Diesel pumping is expensive and often unprofitable, so both plantations and commercial farmers want electricity. The state company Electricidade de

⁸⁷ Sumol Compal Portugal owns 90% and is, in turn, controlled by Refrigor. The other 10% is held by the Mozambican group Soico (O Pais, STV) and Tropigalia, which in turn is owned by Portuguese businesspeople who have been in Moçambique for more than a decade.

⁸⁸ The World Bank estimates the cost of a new small irrigation system between \$2000 and \$16,000/ha, depending on the length of irrigation canals. Mozambique: Analysis of Public Expenditure in Agriculture, Volume I: Core Analysis, Washington: World Bank, Report No. 59918-MZ, 2011, p 107

⁸⁹ @Verdade and Noticias, 28 January 2011.

Mozambique (EDM) has a lower tariff for agriculture,⁹⁰ but the cost of an electricity connection is very high and must be paid in cash before the installation is carried out. Corridor Agro, an important new investor in Nampula province (see chapter 7), is continuing to use diesel on one farm because the cost of the connection is so high: 8 million MT (\$270,000) for a 10 km electricity connection. ECA picked a location close to an electricity line, but the connection still cost 1 million MT (\$33,000). Other countries use long term loans to support investments which reduce costs and create jobs. The United States has done this since the Rural Electrification Act of 1936, in which loans of up to 35 years are given to electricity companies to finance the construction of electric distribution, transmission, and generation facilities. Users then pay the installation costs as part of their bills, but over a very long period. Mozambique could do this, and it would make a huge difference to commercial farmers.

The other problem is simply getting the line installed, which must be done by EDM and which can be very slow. Companhia do Vanduzi had to go to the governor and then go public in the press, threatening to close a farm in Catandica if the electricity line was not built.⁹¹ The then Director-General Chris Serfontein said that the cost of diesel irrigation was "unsustainable". The pressure finally succeeded and the line was built.

A Manica miracle?

In our book *Do bicycles equal development in Mozambique?* we had a chapter "The Manica miracle is over". White farmers from Zimbabwe and a few new investors found that without state support, they could not succeed, and most gave up. Six years later, we are seeing a steady growth of small and medium commercial farmers. Not a "miracle", but 9 000 farmers producing for the market. Mozambican government support is still missing, but more experience, contacts with Zimbabwe, and support from the international public sector for new crops and contract farming are making an important difference.

Many of the problems remain. The lack of credit, no assured markets at fair prices, and no risk sharing discourage many good family farmers from expanding to be small commercial farmers and prevent many small commercial farmers moving up to medium scale. Contract farming fills some of those gaps and is already making a difference. As in Gurué, soya shows how long term support from the international public sector can make a major difference.

Lack of money and machinery are big constraints for the new small commercial farmers. It is obvious they are undercapitalised and cannot find finance. Serious commercial farming will require mechanical ploughing to allow expansion of area and expensive irrigation to deal with variable rainfall. Meeting modern food hygiene standards requires relatively expensive processing machinery and environmental conditions. Tree crops such as litchi, mango and macadamia nuts could be particularly important in Manica province, but require investment capital to get started and then the trees take three years to grow enough to begin to be productive. This all requires long term finance, 5-10 years, and interest rates in Mozambique are so high that no commercial farm could repay such loans and be profitable. AgDevCo's mix of loans and investment range from \$50,000 to \$1 million, which seems the right level. AgDevCo shows what can be done, but it remains small, and there is no equivalent source of domestic finance for agriculture. Many other countries have land or agricultural banks providing long term subsidised credit, and it is hard to see how domestic commercial agriculture can develop in Mozambique without such finance.

With government and most donors still reluctant to support small commercial agriculture and small agribusinesses as part of the value chains, big foreign investment is often seen the easy way to promote agricultural development, because foreign investors are expected to bring everything with them. But they expect very high rates of return, create relatively few jobs, and in Manica province large scale foreign farm investment has so far consistently failed. In contrast, there are several hundred small commercial or emergent farmers in the province and the number is increasing. The expansion is largely in response to better markets and contract farming opportunities. Mozambique's staple food crop maize is not profitable for small commercial farmers

⁹⁰ For larger users (more than 500 kWh/month), the tariff is 3.71 MT/kWh for domestic users, 4.17 MT/kWh for agriculture, and 4.64 MT/kWh for other users - \$ 0.124, \$ 0.139, and \$ 0.155.

⁹¹ "Companhia do Vanduzi ameaça fechar as portas", Maputo: *Noticias*, 13 March 2009.

(in contrast to neighbouring Zimbabwe), so emergent farmers are producing soya, sesame, sunflower, bananas, litchi, pigs, goats, cattle, rabbits and other commodities.

Filipa Carvalho Serfontein, the Mozambican partner of Moz-Agri, points to the failure of the foreign investors that want to start big and move quickly. She stresses that the lesson of the successful farmers is that "you have to grow slowly with the business and the farm. It takes time and you need to work closely with local people."

So the question for government and donors is: Does Mozambique keep looking for foreign investors, in the hope that some will finally get it right? Or does it support the small commercial farmers who are showing that they know how to make money farming? Support for smaller Mozambican commercial farmers is not easy – it will be complex and many new farmers will fail. But in a climate in which South Africa investors demand even more incentives to invest in Mozambique, is it time to look more closely to emergent Mozambican farmers who can make better use of such incentives?

6. The maize conundrum

"Soya is the only profitable crop; maize is not profitable enough", comments Sulemane Hosseni of AgDevCo. It is a comment we heard frequently. This creates a contradiction, because President Armando Guebuza and ministers urge farmers to produce more food, to make Mozambique food self sufficient. But exhortations are not of much use if the crop is not profitable. There is a large group of Mozambican small commercial maize farmers, but some are now moving on to soya and other more profitable crops, while others produce maize only for seed at a higher price. Maize remains only marginally profitable as a commercial crop. The lack of incentive to grow maize and rice raises serious questions about Mozambique's ability to obtain food security. Because of the importance of maize and rice, we look in more detail here about the problems of these as commercial crops.

Important for this book, the lack of profitability of growing food raises another issue. For our book *Zimbabwe Takes Back its Land*, we found that emergent farmers on the other side of the border, in Zimbabwe, started with maize, the basic food crop which they already knew. They then added fertiliser, improved seed, and more careful weeding to raise their productivity until they made significant profits and became real commercial farmers. Then they moved to other, more profitable, crops. This easy transition is not available to Mozambican emergent farmers. Mozambican peasants who want to become commercial farmers are being forced to make the double jump to a new non-food crop.

Figure 6.1 Maize price, paid to producers, Vila Manica

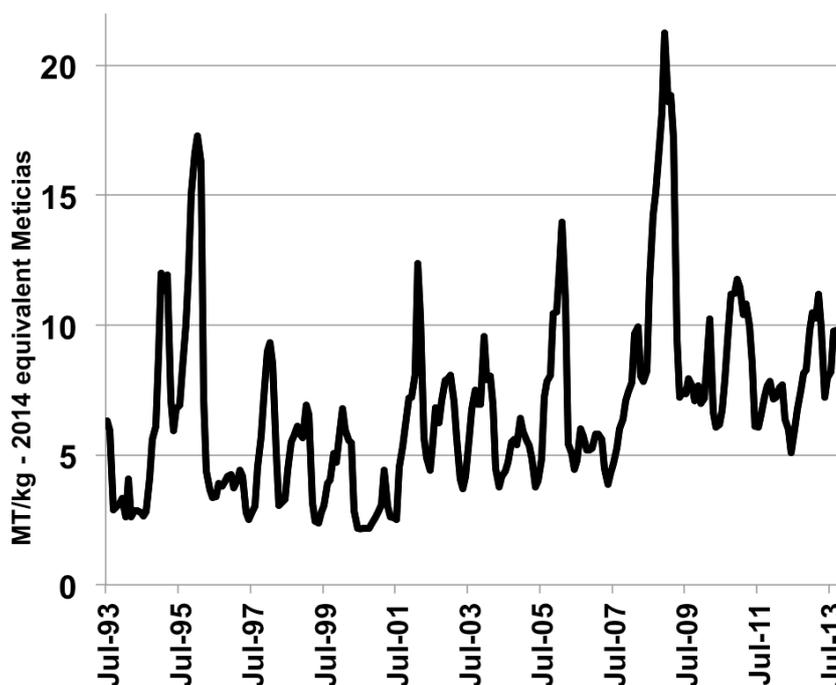


Figure 6.2 Import parity price MT/kg

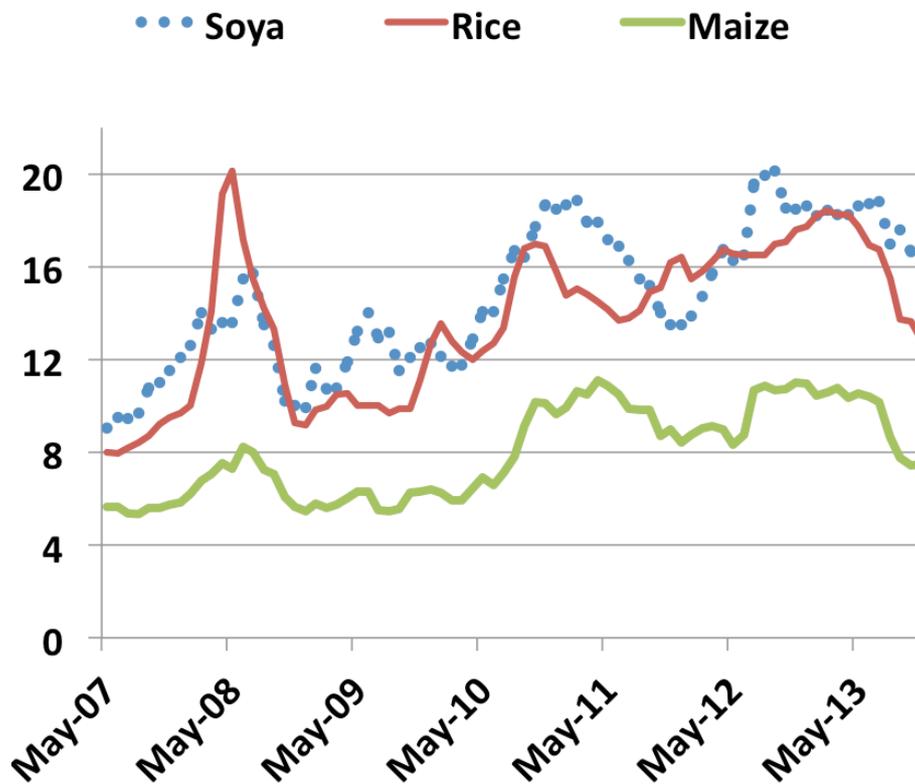


Figure 6.3 Maize producer price in Angónia – above or below import parity price

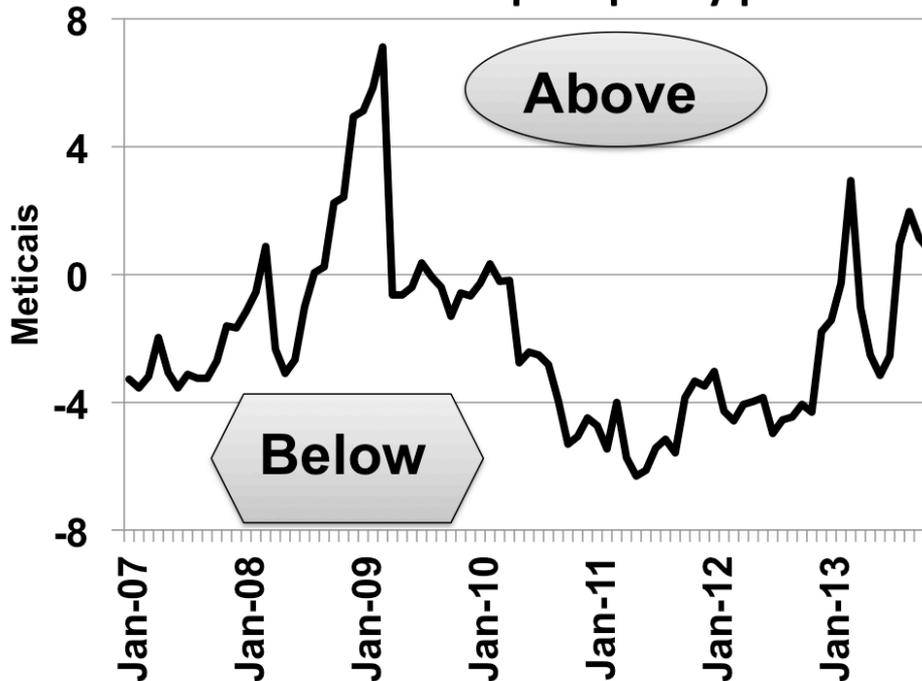


Fig 6.4 Metical Exchange Rates

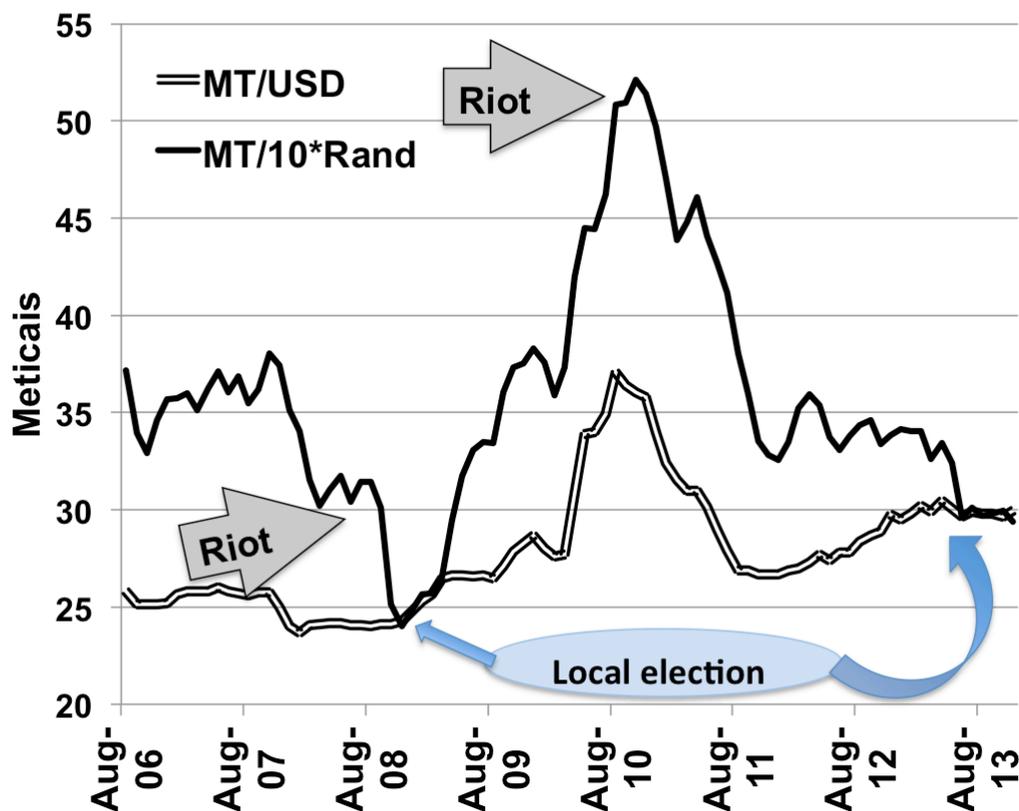


Table 6.1 Maize prices

All prices MT/kg	June 2012	August 2012	October 2012	June 2013	August 2013	October 2013
Producer prices						
Gorongosa	3.9	5.7	6.2	3.7	5.5	7.8
Angónia	5.7	6.3	6.9	7.4	9.7	8.6
Manica	4.6	6.9	8	7.4	9.7	9.1
Ribaué	5.7	6.9	9.7		7	11.4
Retail prices in producer town						
Manica	5.7	8	9.1	8	10.3	9.7
Ribaue	6.9	7.4	10.3		10.6	14.3
Retail prices in main cities						
Maputo	12	12.7	13.5	13.5	13.5	12.7
Beira		9	9	8	9.1	11.4
Nampula	7.4	8.6	10.9	8.6	11.4	14.3
Import prices						
South African white maize in southern Mozambique	9.2	11	10	8	8.3	8.8
Import parity maize price in Mozambican ports	8.7	10.9	10.7	10.4	8.7	7.4
Regional						
Zimbabwe - GMB pays to producer	8.3	8.5	8.7	11.3	11.3	11.3

Figure 6.1⁹² shows the history of producer prices paid in Vila Manica in the two decades since the war, with prices corrected for inflation to show 2014 equivalent. The price paid to producers for maize has been hugely variable and profit cannot be ensured. For example, the price went from under 4 MT/kg in 2004 to 14 MT/kg in February 2006, dropping back to 5 MT/kg in just three months, up to 21 MT/kg in December 2008, and down to one-third that five months later, up again in 2010, and down below 5 MT/kg in 2011.

Table 6.1 gives a set of maize prices at six times in 2012 and 2013 in various places. Angónia, Vila Manica and Gorongosa are all on a good road to Beira and one might expect similar prices, but they are also hugely variable, sometimes higher in Manica and sometimes in Angónia. The table also gives retail prices in two of those cities, Manica and Ribaué, which shows that the retail mark-up usually is not large – around 1 MT/kg – but as part of the huge variations in price, Ribaué showed mark-ups of over 3 MT/kg in late 2013. Prices are also shown for the main cities, which suggest large profits, even taking into account transport costs.

One way to estimate if producers are receiving a reasonable price is to compare the price they are being paid with the cost of importing maize instead of growing it, either overland from South Africa to southern Mozambique or by sea to a Mozambican port from India, the United States, or South America. This is known as the "import parity price" Figure 6.2 gives import parity prices for maize, rice and soya over six years. Figure 6.3 compares the import parity price for maize with the producer price for Angónia and shows that usually, but not always, farmers are paid less than it would cost to import maize. And the difference can be quite large – 4 MT/kg in 2011.

An alternative model is followed by Zimbabwe, which has tried to both smooth the price fluctuations and promise a price closer to import parity price. Before the harvest, the Grain Marketing Board (GMB) announces a price at which it guarantees to buy. This is a floor price and private traders must pay more than that if they hope to buy maize. It was US\$ 295/t (8.8 MT/kg) in 2012 and US\$ 378/t (11.3 MT/kg) in 2013. Private traders in Zimbabwe have been paying significantly higher prices, for example US\$ 350/t (10.5 MT/kg) in 2012.⁹³ Zimbabwean maize producers claim they need US\$ 400/t (12 MT/kg) to make a profit, and that maize imported from South Africa costs US\$ 460/t (13.8 MT/kg) once transport is added.⁹⁴ In 2013 there was a significant shift of Zimbabwean small and medium commercial farmers away from maize to produce tobacco instead, meaning both tobacco exports and maize imports increased. Table 6.1 shows that Mozambican producers are consistently paid below Zimbabwean prices. In April 2013 four buyers in Manica were offering more than the local traders. The state seed company Semoc was offering 10 MT/kg for seed maize. The UN World Food Programme pays closer to the world market price, for clean dry maize in larger quantities, which has made maize potentially profitable for Siwana. Agriterria is a new large investor, with cattle ranch Mozbife and trading arm DECA which is becoming a large maize buyer to feed their own cattle as well as to sell to others like the World Food Programme. They were offering MT 6/kg for maize. ECA (see below) was offering MT 7/kg. But this is still below the world market price.

⁹² The figures and tables are also on the web so they can be printed out, on bitly.com/chickens-beer-tables. Sources for Figures 6.1-6.4 and Table 6.1: *Quente-Quente, Informação Semanal de Mercados Agrícolas*, Maputo: Sistema de Informação de Mercados Agrícolas (SIMA), Direcção de Economia-Dpto Estatística, Ministério da Agricultura, www.sima.minag.org.mz; <http://www.oanda.com/currency/historical-rates/>; e <http://www.foodsecurityportal.org/api/world-commodity-pric>. For inflation we have taken the Maputo consumer price index. Import parity price is calculated by taking the prices of US No. 1 Yellow soybeans, FOB US Gulf; Thai A1 Super White Broken Rice, FOB Bangkok; and US No. 2 Yellow Maize FOB US Gulf, and added 1.5 MT/kg to cover the cost of shipping to a Mozambican port. There are is no global price reporting for white maize, but historically the price of white and yellow maize have been close. FOB is an acronym for "free on board" meaning the grain is delivered to the boat in the port, but no shipping charges are paid after that. For South African white maize we use the Safex (South African Futures Exchange) price for maize taken from a silo in South Africa, and again add 1.5 MT/kg to cover overland shipping to southern Mozambique. Road transport in Mozambique is expensive, so 1.5 MT is probably an underestimate. Zimbabwean farm organizations were claiming the freight cost of importing maize from South Africa to Harare was the equivalent of more than 6 MT/kg in additional to the actual cost of the maize.

⁹³ Harare: *Herald*, 19 April 2013.

⁹⁴ Tabitha Mutenga, "Maize Prices Unviable", Harare: *The Financial Gazette*, 16 de Augusto de 2013, <http://www.financialgazette.co.zw/maize-prices-unviable/>

ECA – can contract maize work?

There is one experiment under way with small scale maize growers (not emergent farmers) with an average of .75 ha. ECA (Empresa de Comercialização Agrícola) is trying to apply the tobacco outgrower model to maize; it had 936 growers in the first year (all using credit) and 2200 in the second year (half using credit)⁹⁵.

ECA is building its own warehouse and supporting communities to build local grain stores. It has a contract to sell maize to Cervejas de Moçambique (SAB Miller) for Chibuku beer; the brewery wants "grits", which is high quality ground maize with husks and germ removed (which in turn can be used for animal feed). But the miller in Beira produced poor quality grits, so ECA is installing its own mill. Partly because of the beer contract, ECA paid MT 7/kg for good quality maize – clean, undamaged, with moisture below 12.5%.

AgDevCo is providing much of the funding. Grant and Allison Taylor, who run ECA, do not have their own farm; Grant says "managing outgrowers is a full time job and you cannot do both".

ECA provides three packages: good seed only (either OPV or hybrid; MT 850/ha, \$28), good seed plus top dressing fertiliser (MT 3120/ha, \$100), and good seed plus basal and top dressing fertiliser (MT 5200/ha, \$175). Because of very high interest rates in Mozambique, farmers who take the packages on credit and pay at the time of sale pay 27% interest and fees. Farmers are in credit groups and in the first season there was a 100% repayment rate. Inputs cost about 20% less than if bought from local dealers.

The best farmers are raising their production to 3 t/ha. Most are doubling production, from 0.7t/ha to 1.5t/ha. But is it profitable? Our calculations suggest that maize is marginal, even with ECA support. The full package, on credit, costs MT 6600 (\$220)/ha which at a maize sale price of MT 5/kg requires an extra 1.3t/ha; even at the higher MT 7/kg ECA pays, it still requires producing 950 kg extra. And that does not take into account the cost of weeding, which is often done with hired labour. At these levels ECA contract maize may not be profitable for most farmers. The Taylors say that some of these farmers should be able to produce 6t/ha, at least in good rainfall years, but is that enough to make maize profitable at substantially below world market prices?

ECA is clearly successful in that small farmers want to join the programme, they repay their debts, and many are using their own money rather than borrowing. It is worth noting that ECA farmers report a higher than average income before joining the programme, and unusually many already used fertiliser on maize (perhaps because of a history of having fertiliser for tobacco). But they are also small and many take only small quantities of fertiliser and seed – these are not emergent farmers. Is this a case of small farmers earning a bit of extra money, or does it provide a route to commercial farming?

Hybrid or OPV?

High levels of maize productivity require hybrid seeds and fertiliser, and their use is widespread even by small farmers across the border in Zimbabwe. Hybrid seed is available in Manica from the South African company Pannar and the Zimbabwean Seedco. A new local company, Phoenix Seeds, has produced a hybrid seed which is more drought tolerant and more suitable to the climatic conditions of Manica province, and is in use by some farmers, but it has not yet been approved for sale by the Instituto de Investigação Agrária de Moçambique (IIAM). Sementes de Moçambique (Semoc) supplies open pollenating varieties (OPV) of maize, mainly Matuba.

As we have seen, some Manica and Angónia farmers use hybrid maize seed, but most do not. There seem to be three reasons. The first is cost, not just of the seeds, but more importantly of the fertiliser, which is essential and in Manica can cost twice as much as in neighbouring

⁹⁵ Conservation agriculture has become fashionable with donors, and ECA contract farmers must practice a zero tillage form of conservation agriculture which involves digging holes on a 45 cm by 50 cm grid, putting three seeds and fertiliser in each hole, and removing one plant if all three germinate. ECA provides measuring ropes and cups. The problem so far is that maize is normally weeded once or twice during the season, whereas this zero tillage method requires weeding three or four times during the season, and some farmers fell behind, leading to reduced maize production. Weeding is mostly done by women, so conservation agriculture increases women's labour; many farmers hire labour, but not all have the money to do it.

Zimbabwe. The average family simply does not have the money to buy several bags of fertiliser. And there is no credit and no risk sharing or insurance. Very few farmers have the money to make the jump to hybrid seeds. Second, farmers can save their own OPV seed and use it the following year, while most higher quality seed is Matuba produced by Semoc and sold to the government, which distributes it free through local officials. So peasants are not accustomed to buying seed, because they save it and get some free. Third, OPV may be less productive but it has some advantages. Most OPVs such as Matuba are "flint"-type maize varieties whose small grains are harder and more resistant to insect damage, particularly in storage, which means farmers must sell hybrid maize more quickly and it is harder to keep the maize, hoping for a higher price later in the season. The other reason is that the method of preparation of maize flour, using a mortar and pestle, facilitates the separation of the endosperm from the bran, which does not happen with most hybrids. There are solutions to the question of storage and even the preparation, but it adds to the reluctance to change.

The core problem remains the same. Without credit, risk sharing, and a guaranteed market at a fair price, few farmers can afford to take the risk on investing in hybrid maize.

Table 6.2 Grain production and consumption,
2013, 1000 tonnes

	Maize	Rice	Wheat	Total
Produced	2150	182	3	2335
Imported	100	470	625	1195
Exports	5	0	0	5
Total consumption	2245	652	628	3525
Local production as share of consumption	96%	28%	0%	66%

source:: <http://www.indexmundi.com/>

Rice

Table 6.2 shows that in 2013 Mozambique consumed 3.5 million tonnes of grains, of which it imported one-third. Nearly all maize is grown locally, but little is exported. Rice is the next most important grain, but 72% is imported. Mozambique is suitable for rice cultivation and there have been largely unsuccessful government and private sector attempts to raise rice production for nearly four decades. At present, there are on-going conflicts over land between larger investors and local rice farmers in Zambézia and Gaza.

One of the larger projects was started by MozFoods in 2005 in the Limpopo valley in the Chokwé irrigation scheme. MozFoods is also the owner of Companhia do Vandúz (see Chapter 5). When we interviewed them in 2006, MozFoods was highly ambitious, expecting to produce 1 million tonnes of rice per year at less than the price of imported Thai rice. MozFoods was able to recuperate the well-built but run-down facilities of three old enterprises: Capelas rice mill, Semoc's seed processing plant, and the Lomaco farms. By 2012 they had 500 ha of their own producing 3t/ha, and 3000 contract farmers with up to 3 ha. MozFoods supplied inputs and guaranteed a market, and the farmers promised to sell MozFoods at least half their crop.

But the project was never profitable. Mozfoods director-general Arnaldo Ribeiro in an interview⁹⁶ in 2011 said that their contract farmers were unable to expand beyond 3 ha because of the lack of bank credit, even though more irrigated land was available. But he went on to warn the because of the overvalued exchange rate, their rice could not compete against imported Thai rice. And he said the removal of the import duty on imported rice after the 2008 riots (see below) made the situation worse. Soon after that MozFoods CEO Carlos Henriques said "We had to drop the prices of our rice 15% in November 2011 because the currency had appreciated by 30% and no one was buying it. Rice was suddenly expensive and people could access much cheaper rice that

⁹⁶ Leonel Muchano, "Chókwè: Produção de arroz caminha para as 20 mil toneladas," Maputo: *Notícias*, 8 de Novembro de 2011.

was imported. If you look at the neighbouring countries of Tanzania, Uganda, and Kenya, to import rice you must pay a 70% duty.⁹⁷

In January 2013, the Limpopo valley suffered the worst floods since 2000, causing extensive damage to mills, farms and irrigation systems. MozFoods says that it cannot compete with imported rice, and has decided to abandon rice and not rebuild. It will concentrate on Vanduzi vegetables.

Exchange rates and riots

One of the key problems for Mozambican farmers is an overvalued exchange rate. Many governments try to keep the cost of food low for the urban poor. In Maputo and Matola much of the food is imported from South Africa, so government tries to keep the Metical overvalued - that is, it takes fewer Meticals to buy each South African Rand, and thus each kilogramme of tomatoes. It also makes it cheaper to import farm machinery and fertiliser. The problem is that the overvalued Metical makes it hard for Mozambican farmers to compete. Even in Chimoio, more than 1200 km from South Africa, some South African foodstuffs are priced at below the cost of production locally. Figure 6.4 gives the number of Meticals required to buy 1 US dollar or 10 South African Rand.⁹⁸

It is useful to think of a triangle, with the Metical, Rand, and US dollar on the three corners, and the exchange rates as the sides. If the exchange rate between the Rand the US dollar change, then that automatically changes the exchange rate between the Rand and the Metical, and Mozambique can do nothing about that. But Mozambique can intervene to change the exchange rates with both the Rand and US dollar, with the third side of the triangle kept constant. So Mozambique and South Africa are both trying to set exchange rate and trade policy. In the next paragraphs we follow exchange rate policy over the period 2006-13.

There were rapidly rising international food and fuel prices in 2007 and 2008. Between April 2007 and July 2008 oil doubled in price, from \$ 67 per barrel to \$133, while the global price for maize went from \$153 per tonne to \$267. Although oil is largely consumed by the richest fifth of the population, that large a jump harmed everyone. But a World Bank study⁹⁹ showed that although the food price rise had a serious impact on the Maputo poor, it actually raised incomes in rural areas in the north and centre and was an incentive to increase agricultural production. In an attempt to cushion the price rises, South Africa increased the value of the Rand against the dollar and Mozambique acted similarly, moving from 26 MT to \$1 to 24 MT to \$1 in only two months. This pushed the Rand exchange rate from 3.8 MT for 1 Rand down to 3 MT for 1 Rand (Figure 6.4). But it was not enough, and there were demonstrations in Maputo on 5 February and then four other towns against the high cost of living, triggered by an increase in bus fares. At least five people were killed and more than 100 injured, many shot by the police. Government responded by a fuel subsidy and by cutting the import tariffs on maize, wheat and rice from 25% to 2,5%.¹⁰⁰ This, as we note above, made domestic rice uncompetitive.

In late 2009 and early 2010 both Mozambique and South Africa devalued and the Metical fell to a more realistic level, but when it hit 5 MT for 1 Rand there were violent demonstrations in Maputo on 1 and 2 September 2010 that left at least five dead. The protests were against the increase in prices of electricity and water, which took effect 1 September, and the price rises of bread and fuel. Over the next year, the exchange rate came back down to 3,5 MT for 1 Rand. Riots in 2008 and 2011 were followed by the governing party, Frelimo, doing relatively poorly in local elections on 15 October 2013. In Maputo and Matola, the opposition won more than 40% of the vote. This underlines that government priority must be to keep the population in the capital on-side. Low food prices will be part of that.

But there is also a need for rethinking and rebalancing. Rogerio Siteo, then director of the government owned daily, *Noticias*, led the way with a remarkable column¹⁰¹. He argued that the

⁹⁷ "Interview - Carlos Henriques - Food for Thought", *The Business Year, Mozambique 2013*, London: The Business Year, 2013.

⁹⁸ They are usually not the same because the rand also varies against the dollar.

⁹⁹ "Mozambique Higher Fuel and Food Prices", Washington: World Bank Report 47455-MZ, Dezembro de 2008.

¹⁰⁰ Virgulino Nhate, Claudio Massingarella e Vincenzo Salvucci, "The political economy of food price policy - Country case study of Mozambique", Helsinki: UNU-WIDER, Working Paper No. 2013/037, 2013.

¹⁰¹ Rogério Siteo. "O custo social de 'bons cumpridores'," Maputo: *Noticias*, 15 February 2008.

root cause of the 2008 riot was "the religious way that we applaud and accept the prescriptions of the World Bank and International Monetary Fund for structural adjustment, when these are preoccupied with macroeconomic questions and not the social effects." These are "authentic poison prescriptions." They have destroyed jobs and failed to promote agricultural development, which has "contributed greatly to impoverish the country and promoted a migration to the cities, especially of the young". The government needs its own development policy and needs to stop treating World Bank and IMF statements as if they were "bible verses". Siteo added: "We continue to be slow and unwilling to create clear and effective policies that differentiate between intervention in family production with the purpose to improving the lives of families, and the investment needed in agriculture to generate jobs in rural areas, thus becoming attractive for people to stay in the countryside."

Impossible contradiction

Mozambican ministers want three things which cannot occur at the same time: low Maputo food prices, peasants growing more food, and a totally free market. Low prices for consumers mean low prices for producers, which means commercial farmers will grow soya and tobacco instead of maize and rice. Maintaining low prices in Maputo will surely remain top priority, so growing more food requires interventions in the market. As we note in Chapter 8, this problem is not unique to Mozambique, and most developed countries understood this decades ago.

The single most important intervention is a guaranteed market with a pre-announced floor price. The huge variation in maize prices makes it impossible for any serious commercial farmer to plan ahead. The profit margin on maize is tiny, and there is no way of knowing if the purchase prices will be higher than production costs. So a guarantee to buy at a set price, at least in provincial capitals, is essential.

The second need is to lower production costs. Zambia and Malawi subsidise fertiliser, which is essential for higher yielding hybrid maize. An alternative is some sort of subsidised credit combined with risk insurance – if there is a flood, drought, or insect plague, the debt does not have to be repaid. Subsidised machinery and irrigation would also lower production costs.

Another possibility is allowing the price paid to maize growers to rise, but use subsidy to keep the consumer price lower.

In its study¹⁰² after the 2008 riots, the World Bank took a very hard line: "We advise against general subsidies and trade restrictions." But reading the report in detail shows just how ideological the World Bank advice can be. Buried in the middle of the study is a simulation of the impact of various subsidies. Bread, rice and fuel subsidies largely benefit the better off. But most Mozambicans eat maize, so the benefits of a maize subsidy are more equally distributed. And the Bank shows that a maize subsidy costing only 40 million Meticaís (\$1.3 mn) would bring a benefit to consumers of four times as much - 160 million Meticaís (\$5.3 mn).

Perhaps Mozambique should follow the model India proposes, and for which it obtained permission from the World Trade Organization in December 2013 - buy maize at a higher price from poorer farmers and then sell it at subsidised price to poor urban dwellers.

¹⁰² "Mozambique Higher Fuel and Food Prices", Washington: World Bank Report, 2008, pp xii, 34.



Cassava being loaded into the Dadtco processing machine, which fits into a 40 foot container.

7. Chickens and beer on the road to growth

Driving along the 40 km on the main road from Namialo to Nacavala we saw at least 100 young men risking their lives standing on the road trying to stop cars in the hope of selling a small bowl of cashew nuts. These young people have no jobs and are desperate for a few pennies.

In August 2013 we returned to parts of Nampula province which we visited seven years earlier doing research for a previous book, *Do bicycles equal development in Mozambique?* Rural Nampula is still very poor. But there are also islands of change – pockets where small scale commercial farming is emerging and being supported. Foreign investors are appearing at different points on the value chain, and these are not simply trading companies buying produce, nor are they companies wanting to grow thousands of hectares of crops and make rapid profits. Instead, they are looking for long term relations with producers and are investing for the future, not quick profits. Another change is that associations are starting to play an important role as intermediaries.

But "we have few professional farmers. There are no role models. Instead, we just have people who survive on the land," said António Muagerene, executive secretary of the Nampula Civil Society Platform (Plataforma Provincial da Sociedade Civil de Nampula, PPOSC-N).

It is a rare opportunity for writers to be able to revisit the subjects of previous books. In Chapter 3 of *Do bicycles equal development in Mozambique?* we talked about Associação de Ehiquite-lapala in Ribaué district. On a main road, it was a model association which received many visitors. Having produced sunflower and paprika at the suggestion of donor NGOs, it had given up and was then trying onion, but always with the same problem – no market. But what made it a donor tourist attraction was that it had taken on fish farming as part of a project promoted by the NGO CARE. In 2006 when we visited, it had 26 tanks of tilapia. Members made the standard presentation, with a flip chart, about how onions and fish were helping them to "overcome absolute poverty". But as we talked, a different reality emerged. One woman said that the donors and government officials kept coming, but "we are still poor; there is no improvement." Jaime Agostinho, then treasurer of the association, said: "we hope to produce 40 tonnes of onions. But who will buy them? We have no transport to take them to market." After more discussion, he also admitted they had not sold any fish: "It is difficult to sell the fish because they are hard to catch and we do not have a net." Also, in central Nampula province there was no experience of eating and marketing fresh fish, and no sales network.

We went on to talk to CARE in Nampula city. Tim Russell said bluntly: CARE gives fish, but "we are not in the business of providing nets". It reminded us of the Chinese proverb used by Oxfam a few years ago: "Give a man a fish and he will feed himself and his family for a day, but give a man a net and teach him to fish and he will feed himself and his family for a lifetime." But as

Russell also admitted, "I don't think anyone ever thought about nets. I never did." But CARE's target was only setting up fish farms, and its target was met.

Seven years later Agostinho was now association president. The association had been renamed after the wife of the President. It was still on the development tourist trail; two deputy ministers had visited recently. One big change is that traders were now coming to lapala, and Associação dos Produtores Maria da Luz Guebuza as well as several others along the road were selling their onions.

The association had 34 fish tanks, but it still had no net! Earlier in 2013 another visitor was asked for a net, and sent a bed cover (*manta*). For Agostinho, that was the last straw. "We will do without help. We know what we want to do." He decided to go 400 kilometres to the port of Nacala and buy a net – something association members could not even conceive of seven years ago when we first visited. The shift in attitude is real, if slow. In 2013 the association sold 875 kg of fish, worth 70,000 MT (\$ 2300) – much less than could have been sold. For the present, Agostinho explained, they are treating the fish like cattle – "this is our bank", he said. They are selling fish only when they need money – to buy seed, to upgrade the fish tanks, or to pay wage labour at peak times such as weeding. The local butcher in Ribaué came with a tank and offered to buy 10,000 MT of fish, but they would only sell him 5,000 MT. A Mozambican technician visiting with us had twice tried to buy fish, but had been refused because it was a time when the association did not need money.

But the visit of the butcher set them thinking. He paid them 80 MT/kg and sold the fish for 140 MT/kg, so they pushed their price up to 90 MT/kg. And they also realised that butchers and others with refrigeration are an obvious market for fresh fish. The next step for the 21 members of the association who run the fish farm is forming a company, and they plan to sell fish on a regular basis, probably draining one tank at a time and selling all the fish, and going around the tanks in rotation.

The association has slowly realised that 10 years of performing for visiting government officials, NGOs, and donors, and even hosting foreign students, has brought them very little. Most offers of help proved to be empty promises. Growing self-confidence and a very basic understanding of business has finally led to more commercial thinking and they are becoming commercial farmers.

Perhaps we should not be surprised. As we have seen elsewhere in Mozambique as well as in Zimbabwe, it often takes a decade for peasant farmers to dominate new agricultural and business skills. But there is a point when they become both knowledgeable and confident, and can move forward – as seems to have happened in Ehiquite. They are finally moving from being aid- and politics-dependent to taking the first steps to becoming commercial.

Aid, the free market, and contracts

But the context makes that move very difficult. Two decades of aid, an unfettered free market and patronage politics have created a distorted sense of commercial farming and of contract. Seeds, equipment, and even "loans" are seen as coming free, as gifts from Frelimo, the government, or donors. There may be talk of repayment, but the only payment usually required is to chant "Viva Frelimo" or sing the praises of the donor and say how much the donor is doing to reduce "absolute poverty" and raise the standards of women. This is compounded by the history of the "7 million", the money provided for small economic projects in rural areas which was supposed to be a repayable loan, but which everyone knew did not really need to be repaid.

On the other hand, everyone seems to have stories of promises made – by traders, NGOs, or the government – and then not fulfilled. Too many farmers have seen NGOs and traders promote crops and promise to buy, but then never return, or come back late, or pay less than promised. Loans and inputs, supplied both by government and by contract companies, are sometimes too late to be well used.

This has two effects. First it creates an understanding that useful things come irregularly and go mainly to privileged groups and people (such as senior party officials) and thus cannot be planned for, but are free. We visited one 100 ha farm where the farmer is producing some horticulture and could invest and expand, but he is not. Instead he said to us "I am asking for help" ("*Estou a pedir ajuda*"). Second, the concept of "contract" becomes very distorted, because the contract may say that repayment or delivery of a product is required, but in fact what is required is some form of praise-singing and political activity.

This makes it very difficult to create a commercial agriculture culture. There is little sense that inputs are paid for (at least eventually) and that crops are planted, weeded and harvested at the right time (which is more important for the new commercial crops than for traditional maize, cassava and beans). There is still little trust that inputs will be delivered on time and that contract companies will actually arrive on time to buy and pay a fair price. Crops are sold to whomever comes to the door, with no sense of the farmer being tied to sell to the contract company.

In this very unstable economic environment, Mozambican peasants are still extremely poor. The median rural cash income is 1000 MT per person per year – and that is only enough to buy half a bag of fertiliser. The money must pay for clothing, some food, cooking oil, and other necessities. Peasant farmers are necessarily conservative because a failed crop means the family goes hungry. Thus peasants are very cautious about spending time or money on a new and risky crop, or making unproven changes to their systems.

And when were we doing the research in 2013, commercial farmers and their associations were being asked to learn very new practices, just when the radio announced more donations of seed and tractors to the privileged recipients and piles of cotton remained unsold because contract companies were not buying.

These are not propitious conditions. And yet, thousands of farmers in Ehiquite and elsewhere in Nampula province have demonstrated that they want to be commercial farmers and to use agriculture to raise themselves economically. And a big change since we previously visited rural Nampula has been contract farming, with the contract companies supplying the inputs, credit, expertise and markets and sharing the risk. Most small farmers are not ready to make the huge leap, but enough are, and many find contract farming is the hand-up they need.

Chickens and beer

Contract farming has many different shapes, but most involve a farmer signing a contract with a larger farmer or a trading company. The contract company supplies seed and other inputs as well as extension services and technical support, sometimes does land preparation (particularly for larger farmers), may do threshing, and sometimes lends money to hire people for weeding. In exchange, the farmer must sell some or all of the crop to the contract company at a previously agreed price, and the cost of the services and loans is deducted before the farmer is paid.

There are many arguments about the fairness of contracts, and some scandals about contract companies failing to buy or pay (discussed more in the next chapter). But at their best, contracts provide the essential credit, inputs, land preparation and markets that allow emergent farmers to expand. There is a long history in Nampula of contract farming of tobacco and cotton. In recent years contract farming has emerged in other sectors, with three larger companies, Novos Horizontes¹⁰³, Corridor Agro¹⁰⁴, and Dadtco¹⁰⁵, as well as growing number of small local arrangements.

It is important to underline that each business is different, which leads to a very wide range of farming contracts. For example, the largest producer of chickens in Nampula, Frango King¹⁰⁶, controls the entire value chain, from feed through to shops selling chickens. Its organises its feed primarily through farming contracts for soya (see chapter 4), although its is now producing some feed on its own farm; it produces its own chickens; and its sells through its own shops. By contrast, the other big Nampula chicken producer, Novos Horizontes (NH, New Horizons), limits itself to producing chickens and eggs. Rather than try to control the entire chain, it buys its food on the market and sells chickens to traders and wholesalers. In contrast to Frango King, Novos Horizontes' chicken production is done by outgrowers. Both seem successful, despite the very different approaches, and both have important outgrower programmes - one for soya and the other for chickens.

¹⁰³ <http://www.technoserve.org/our-work/stories/poultry-promotes-prosperity>

¹⁰⁴ http://www.linkedin.com/company/corredoragro-lda?trk=top_nav_home

¹⁰⁵ Dutch Agricultural Development and Trading Company, <http://www.dadtco.nl/mozambique>

¹⁰⁶ <http://www.africancentury.co.uk/>

Novos Horizontes

Novos Horizontes (NH) started in 2005 and had some early support from TechnoServe. It went into profit in 2009. It now supplies 40,000 day-old chicks per week to 187 outgrower families, who produce 40 tonnes of chicken per week. Families build a chicken house to NH specifications, which includes a biosecurity fence. NH provides day-old chicks and feed. Chickens must be vaccinated at days 1, 3, 14 and 18, so NH takes vaccines out to farmers by motorbike. The cycle is seven weeks: five weeks to raise the chickens and two weeks to clean the chicken house. Farmers must sell to NH, which then deducts the cost of the inputs. Profits range from 3,000 MT to 30,000 MT (\$100-\$1000) per cycle – 21,000-210,000 MT per year (\$700-\$7000) – depending on size of flock and production quality.

The firm has recently expanded into egg production and expects to do that with outgrowers as well. NH head Andrew Cunningham notes that China produces 40% of the world's eggs, largely from family flocks of fewer than 4000 birds. Three aspects of the NH model are usual (although not unique): 1) NH monitors its producers closely and there is an attempt at a personal relationship – contracts are with families, not individuals or associations; 2) There is no debt or credit involved and NH carries all the risk; and 3) NH tries to keep a fixed price for feed and absorb the volatility in global grain prices.

The current group of farmers is only 30% of those who started, and the company did lose money on the first group of outgrowers. But those who remain have a close and profitable relationship with NH. Cunningham notes that farmers meetings have a high turnout, with many arriving on motorbikes bought with chicken profits.

Corridor Agro

Corridor Agro¹⁰⁷ has completed four seasons. Still mainly a company buying grain and oilseeds, it is building a base of contract producers. General manager Sami Saran said they hope to be as large as tobacco company MLT, which has more than 100,000 contract tobacco producers. "We are not in a hurry. It has to be done well with good yields and 100% credit recovery. The starting point is to identify the good farmers," and they are trying to develop a score card to evaluate potential contract farmers. As with all contract farming companies, the first couple of years saw high losses as farmers took advantage of them by taking inputs and ploughing, but did not sell to them or repay the loans. But the shakeout leaves a core of good farmers. They have 1850 farmers in Iapala, Ribaué, growing 500 ha of soya and 400 ha of sesame.

Both sesame and soya require some discipline on the part of the farmer. There is typically only a two week window for planting and one week for harvesting (before the seed pods dry out, crack open, and spill the seeds).

Most Corridor farmers are small and are on contracts in which Corridor only provides high quality seeds treated with insecticide and fungicide plus extension services. But Corridor is trying to move to larger farmers. In Iapala, 300 of its contract farmers have more than 1 ha and 30 have more than 4 ha. Larger farmers receive land preparation, seed, fertiliser, crop protection, and sometimes loans for weeding. Corridor has four tractors and ploughed 240 ha in 2012.

The other Corridor area is Namialo, where the land is not appropriate for soya. For the 2012/13 seasons, they had 136 outgrowers with 1 to 10 ha each. They did 100 ha of Zimbabwean hybrid maize, 100 ha of sesame and 100 ha of mung beans (*feijão holoco*). Mung beans and sesame make a good intercrop, which about half of the farmers do. Corridor is also moving into cassava (for Dadtco, below) and outgrowers produced it on 10 ha.

Corridor figures suggest that its farmers should have a gross income of 15,000-30,000 MT (\$500-\$1000) per hectare, of which one-third to one-half is costs for ploughing, weeding and seed.

The deep poverty in the area slows take-up of improved technologies. Corridor's Indian agriculturalist in Iapala, Anukool Nagi, points out the farmers are extremely reluctant to take on

¹⁰⁷ Corridor Agro is owned by Rift Valley, a Zimbabwe-based company owned by family groups, the Austrian von Pezold family (whose interests are managed by Heinrich von Pezold), Hoegh Capital Partners of the Norwegian shipping family, and Matanuska Zimbabwe of the Hildebrand family, with Oliver Hildebrand as director (<http://www.hoegh.co.uk/>); <http://www.globalaginvesting.com/Conferences/Presenters?eventId=10#vonpezold>). In Mozambique Rift Valley owns Grupo Madal, Matanuska Mozambique, Corridor Agro, and has timber interests in Niassa. Grupo Madal is a Norwegian plantation company established in Mozambique in 1913 and finally abandoned and nationalised in 2001 and reprivatised in 2004.

additional debt, and most don't use fertiliser and inoculants (for soya) and some skimp on weeding, even though the profitability is clear.

Corridor did two experiments with block farming. This is not new; block farming has been promoted since the 1970s, and involves adjoining farmers having their land ploughed all at once, having agricultural extension workers monitor the whole block during the season, and all harvesting and selling is at the same time – although each group member keeps their own land and sells their own crop. Handling a block is clearly more efficient, but peasant farmers are rarely willing to cooperate in this way. In Iapala a group of four farmers did not pool their own land, but instead leased a block of 10 ha from the local chief (*regulo*) to produce soya in the 2012/13 season. This has worked and was to be expanded for the 2013/14 season.

Dadtco

The third contract company buying in central Nampula is different from the other two because it is based on a new technology. Cassava is a staple crop through much of the province, but is a problem because it deteriorates rapidly – within 48 hours of the root being dug up. Thus its only commercial market is as dried cassava chips. But it has a potentially wide range of uses for flour, starch and alcohol. Dadtco has developed a simple machine, which fits in a large 40-foot container, and which processes fresh cassava root into a cassava cake which can be kept for up to a year. SAB-Miller (formerly South African Breweries) which owns all of Mozambique's breweries, has developed a cassava-based lager, first marketed in Mozambique under the Impala brand.¹⁰⁸ Cassava cake is transported to the brewery and replaces 70% of the imported malted barley. The government has given it a duty reduction because it uses local raw materials.

Dadtco has 4200 registered growers in Ribaué and Murrupula, Nampula, who sell an average of 3 tonnes of cassava each. Dadtco pays 1500 MT/t, about 4500 MT per farmer. Thus Dadtco is putting 19 million MT per year into the local economy. Most farmers are small, with only a few growing 4 to 20 ha of cassava. All farmers do land preparation with hoes; some intercrop with beans to reduce weeding. Dadtco gives identity cards to its farmers, and pays cash on delivery. The contract does not require farmers to sell to Dadtco, but only requires Dadtco to buy if offered. Farmers notify Dadtco when they plan to harvest and Dadtco sends a truck to collect within 24 hours of harvest.

Not corporate social responsibility

Three key points should be made about all three bigger companies, as well as Frango King:

1) Outgrowers are an essential part of their value chain. They are not growing tens of thousands of hectares or crops, and doing a bit for outgrowers on the side, to satisfy government and civil society pressure.

2) They all expect to be in Mozambique for a long time and are expanding slowly. Frango King started in 2001¹⁰⁹, Novos Horizontes in 2005. These are not hedge funds expecting high and rapid profits, particularly from selling out quickly.

3) Long-term technical support and learning and modifying the production system are essential. Technoserve has played a key role over a decade on both soya and chickens. Dadtco was founded in 2002, is owned by a foundation and has been supported by the Dutch Ministry of Development Cooperation.

These are profit-making businesses, not charities or NGOs, But they have a longer time horizon – what counts is not the quarterly profit or the current share price, but what will be in the ground in a decade. And community relations are central to their profitability, not an add-on to satisfy government or NGO pressure for community projects.

"Our commercial success depends on our outgrowers. This is not corporate social responsibility." explains Andrew Cunningham of Novos Horizontes. "For the big farmers, the outgrowers don't really matter. But they do for us."

¹⁰⁸ Cervejas de Moçambique, the local subsidiary SABMiller, has signed a contract with Empresa de Comercialização Agrícola (ECA) to buy 2000 t/y of maize meal starting in September 2013, for the production in Beira of Chibuku, a traditional beer made of sorghum, maize, yeast, and water, with a 3.5% alcohol content. It is drunk fresh, within 5 days of brewing. CDM will continue to produce the alcohol-free, maize-based Maheu. (*Notícias* 31 August 2013)

¹⁰⁹ Frango King was started in 2001 by South African Gary O'Connor and his Danish wife Tania Skytte and was sold to African Century in 2009-11.

Small but getting bigger

Small commercial farmers are often at a disadvantage in the marketplace, which can hamper growth. In Nampula province, and elsewhere, two methods are being used to increase their economic clout. One is the demand to be treated not as a peasant farmer, but as an SME (small or medium enterprise). The other is to work through associations.

In chapter 1 we noted how in other economic sectors, promoting SMEs is recognised as central to economic development and to promoting jobs and innovation. Agricultural SMEs – small commercial and emergent farmers – are usually ignored, yet they should provide the same dynamism and job creation.

GAPI has granted four loans to Mozambican agricultural SMEs which are contract farming companies, as part of a package of funding for companies operating in the agribusiness value chain in the Nacala Corridor.¹¹⁰ They are:

Matharia Empreendimentos, a farm of a colonial settler in Ribaué who stayed at independence, which is now being developed by his son and grandson, through contract farming of soya as well as smaller amounts of beans and peanuts. Matharia is also experimenting with sharecropping (also sometimes called "ingrowing"). In colonial times this farm had been a producer of flue-cured Virginia tobacco. The barns were damaged in the war but have now been rebuilt. A group of 17 farmers is now farming 10 ha near the barns and using the barns to cure the tobacco. Each farmer has a plot of 0.5 ha or 1 ha. Profit in the first year (after deducting all costs) was about 70,000 MT (\$ 2300) per hectare, estimated farm manager Alves Namunana, who stresses this is much more profitable than soya.

Lozane Farms of Alto Molocué (Zambézia) does outgrower seed production for soy, hybrid maize, orange fleshed sweet potato, sorghum, and chick peas. Started in 2003 as a seed producer, it has under 100 ha in production, and in 2011 it moved into outgrower soya seed production with eight associations, with the involvement of Clusa, TechnoServe, and USAID's Agrifuturo. It is one of the Mozambican companies that has signed up with the G8's New Alliance for Food Security and Nutrition.

Orwera Seed Company was established in 2011 and it does its own and outgrower seed production of maize, beans, sesame and peanuts. It is working with associations which farm 105 ha for Orwera as well as 15 larger individual farmers with 50 ha.

Santos Agricola is owned by Adventino Santos, who arrived in Namialo as a Portuguese soldier in 1961 and has never left. He now runs the local guest house and has a large farm. He is developing a 50 ha sharecropping scheme in which each grower, usually women, will have 0.25 ha. He estimates that each producer could grow 10 tonnes of vegetables a year on 0.25 ha.

A fifth GAPI credit is to **Corridor Agro** for working capital. The final loan recipient in this programme is IKURU, a trading company founded in 2003 and owned by 29 associations, GAPI, and Oxfam-Novib. In 2013, IKURU bought 1500 tonnes of crops, of which 40% was exported; cashew was processed on contract by a local company. For the 2013/14 season, IKURU will for the first time do its own seed production on 200 ha and with a surrounding group of 20 commercial farmers as outgrowers. IKURU has Fair Trade certification for cashew and groundnuts, and organic certification for soya, groundnuts and sesame. In practice, most soya, sesame and groundnut production in Mozambique is already organic, and IRUKU has 3000 registered organic producers; most are small, although 13 are larger emergent farmers. In chapter 3, we noted that one of the biggest constraints for emergent farmers is land preparation, and IKURU is now importing Chinese motor cultivators, which cost 150,000 MT (\$5000) with a trailer, plough, seeder and even a water pump.

For both IKURU and Lozane, the unavailability of agricultural credit and thus the shortage of working capital has been a major constraint, which has limited the amount they could buy – forcing members and contracted growers to sell to larger private trading companies.

Associations

The other big change in Nampula in the seven years since we last visited is the growing importance of associations. In many parts of the world, farmers' cooperatives have become major

¹¹⁰ From the Fund for the Pro-Savana Development Initiative, funded by the Japanese International Cooperation Agency (JICA).

economic players. In Mozambique, Clusa, which has been working with associations in Nampula for more than a decade, has identified 18 cooperatives which, with more support, might become serious agribusinesses, but there seem few others.

There are several problems linked to the way NGOs have been organising and supporting associations as part of short projects. Most are too large – Clusa says co-ops only work with fewer than 20 members. And most have developed simply as ways to receive donor aid and carry out donor projects, which rarely involved markets or commercial production. Thus associations have little sense of costs, profits, and contracts. Many associations also show internal tensions, with mutual distrust and often distrust of the president, who has better contact with donors. Justino Estivao, Corridor Agro coordinator in Iapala, noted that although "associations have been together for a long time, they are not really a union of the members – they do not see a common interest." So associations are for discussion, not business.

But if associations are not becoming agribusinesses in the way many people hoped, they are proving an increasingly important structure for initial contact and then negotiation – at least in some places. Corridor Agro found in Iapala that it was very useful to work through associations – who identified farmers and drew up lists of farmers with enough land to allow tractor ploughing. Corridor is dealing with 43 associations in Iapala, with about 50 members each. Anukool, the Corridor agriculture technician, notes that "we cannot function here without the associations, but we must deal with farmers individually and not through the association." Corridor sets up a buying post for each association, a simple bamboo and thatch structure, usually at the compound of the association head. Farmers with less than 10 bags (500 kg) must bring their produce to the buying post, but Corridor will send a tractor to collect the produce from those who have more.

Although associations in Iapala have proved a useful conduit, just the opposite happened in Namialo, where Corridor found associations obstructive and stopped working through them.

The International Fertilizer Development Centre is working with Dadtco to introduce newer higher yielding and higher starch cassava varieties. It is working through associations, but selects a lead farmer in each association. Dadtco mostly contracts individual farmers, but it does have contracts with 14 associations which have agreed to grow at least 15 ha of cassava.



A Corridor Agro buying post next to the house of the head of an association in Iapala, Ribaué, Nampula province.

Big farms and foreign investors

At the opposite end of the scale are a few foreign investors farming large tracts of land. Probably the largest recent agricultural investment in Nampula province is Matanuska¹¹¹, a major banana producer in Namialo.¹¹² Begun in 2008, investment is estimated at 1500 million MT; 1426 ha of bananas have been planted and in the year July 2012 – June 2013 they exported 2.1 million boxes (28,000 tonnes).¹¹³ Banana harvesting and packing is labour-intensive and the company now has 2400 workers.

Bananas must be irrigated 14 hours per day, so water is the biggest issue. As we noted in chapter 5, the company built its own dam and Matanuska chairman Jack Dwyer argues that water for irrigation will be the biggest constraint for agricultural development in Nampula.

Matanuska had a rocky start and so far the company is not profitable. A joint venture agreed in 2008 with Chiquita (one of the three biggest banana companies) collapsed in 2011 because, Chiquita says, Matanuska "wouldn't meet the specifications we had laid out at the inception."¹¹⁴ The company exports to the Middle East, and early exports to Iran suddenly stopped when sanctions were imposed. In early 2014 it signed an agreement in which Dole, another of the three big banana companies, will take over all sales operations and become the sole distributor of Matanuska's Mozambique bananas. Dole will open a new sales office in Dubai. Dole will provide technical support for Matanuska's farming operations as well, and hopes to triple production by 2016.¹¹⁵

Matanuska ran into trouble with neighbouring communities over resettlement for the dam. It came into conflict with the Ministry of Labour in 2009. There were early problems, some on-going, with both customs official in Nacala port and with erratic electricity. When we visited, the electricity had been cut all day; the company has generators for packing and refrigeration units, but not for irrigation pumps.

These bananas are exported green¹¹⁶, packed in boxes and then in refrigerated containers, and must arrive at their destination within 30 days of being picked. "We are asking people to treat fruit in a way that they cannot imagine," explains finance officer Tricia Wallace. For Mozambicans, bananas are a cheap food, bought ripe from a market stall and often blemished and damaged. But Wallace calls export bananas a "hypersensitive princess". They require extreme care and the cold chain must be maintained. So everyone from packing staff to customs officials has to learn the importance of care and speed. "We are building a customs system. No one asked them to export fragile fresh fruit before," Wallace adds.

Matanuska Mozambique is owned one-third by Norfund¹¹⁷ and two-thirds by Rift Valley,¹¹⁸ and so far the owners seem patient as exports finally increase: "Our investors say 'we are going learn what it takes to be successful in the long term.' They expect to be part of East Africa in 50

¹¹¹ Named after one of its owners, Matanuska Zimbabwe, which in turn was named after a glacier in Alaska.

¹¹² As well as contract farming, Corridor Agro is also doing some farming on its own land in Namialo, and is a neighbour of Matanuska.

¹¹³ Africa exports only 4% of the world's bananas, of which nearly all come from Cameroon and Côte d'Ivoire, which each export about 240,000 t/yr each. So Mozambique is a very small producer. The other main exporter is a group of 13 South African companies with 2724 ha of bananas, mainly in Boane and Namaacha in Maputo province, and which export to South Africa. Several are linked to former security minister Jacinto Veloso.

¹¹⁴ E-mail from Chiquita press officer Ed Lyod, 16 Sept 2013.

¹¹⁵ "Dole Fresh Fruit Europe and Matanuska Africa Limited Establish Commercial Partnership".

BusinessWire, 28 de Janeiro de 2014.

¹¹⁶ In Chapter 5 we noted that Matanuska in Manica ripened bananas for export to Zambia, but long-distance overseas export is always of green bananas.

¹¹⁷ The Norwegian government-owned Norwegian Investment Fund for Developing Countries has invested \$ 3.7mn in equity capital and made \$ 4 mn in loans and \$13 mn in guarantees to Matanuska Mozambique. (http://www.emrc.be/documents/document/20111107140315-agri11_-_session_iii-part_i-norfund.pdf and <http://www.norfund.no/southern-africa/matanuska-article351-364.html>) In July 2012 African Century announced it had received a \$3 mn loan for Frango King from Norfund, and in July 2013 it announced it had raised \$ 8 mn of equity from Norfund to fund the expansion of Frango King in Mozambique and fish farming in Zambia and Zimbabwe. In Mozambique, Norfund has also invested in two banks, Banco Terra and Socremo.

¹¹⁸ See footnote above.

years. Success is about having a long-term view and doing what it takes to have a sustainable business. This is bold but patient capital. That is what distinguishes between those who succeed here and those who fail," Wallace says. Dwyer adds that "family companies have totally different thinking than TNCs. They are not driven by quarterly earnings reports." It is too early to tell if the new deal with Dole will bring any changes; Dole has been widely attacked for its labour relations and use of pesticides.

Williams adds a final comment: "We live here and are on the farm 24/7. If you are not owner-operated and sitting on top of things and knowing how to get things done, it is easy to overpay and trust the wrong people. The wave of millions of Euros to invest in Africa and simply trying to get someone to make it happen quickly meant the investors were robbed blind."

ProSavana

ProSavana¹¹⁹ is a controversial joint Japanese-Brazilian-Mozambican project in the Nacala corridor.¹²⁰ It is intended to apply the experience of a Japanese-Brazilian project in the Brazilian *cerrado* to the Mozambican savannah.¹²¹ It highlights two of the issues being debated in this book: giant foreign investors versus local small commercial farmers, and the form agricultural modernisation will take. "ProSavana is a priority of the Government of Mozambique and we are betting everything on the success of this programme," Agriculture Minister José Pacheco told a civil society conference in Maputo on 8 August 2013. The unusual phrase "betting everything" ("*apostamos tudo*") that he used underlines both the risk and the importance.

But there are huge divisions and confusion over the programme. Peasant associations oppose it, saying it is promoting big agribusiness investment in farming that will be a land grab that pushes peasants off the land. Proponents argue that there is room for both big and small, that peasant land will be protected, and that the project has changed substantially to respond to protests. The Ministry of Agriculture itself is divided. Problems are compounded by secrecy around the project and the way the project has been presented differently in the three countries. Finally, the project is increasingly entering into the debate also raised in this book about how to modernise peasant agriculture.

The Japanese Cooperation Agency (JICA) reported in 2012 that ProSavana intended "to replicate Brazil's own 'agricultural miracle' which began in the 1970s and helped transform a huge swath of savannah into one of the world's largest breadbaskets."¹²² This was done through the Prodecer project, where Japanese aid over 25 years led to a huge increase in grain production in the *cerrado* savannah region of central Brazil.

"We have to prove with this project that the African savannah can follow the example of the Brazilian *cerrado*," said Marco Farani, the director-general of the Brazilian Cooperation Agency (Agência Brasileira de Cooperação, ABC), in an interview with the Brazilian magazine *Dinheiro Rural* (*Rural Money*). He continued that transforming the *cerrado* should be a great inspiration for ProSavana, and the article continues that "the focus of this project has to do with the similarity between the soil and climate of the *cerrado* and the Nacala corridor."¹²³

This alleged similarity between the *cerrado* and the Nacala corridor has been a core justification of ProSavana, and many Brazilians and Japanese have been surprised to discover it is not true. The *cerrado* had extremely high acidity and aluminium concentration and few nutrients in the soil, and thus was suitable for various high-tech solutions. It also meant there were relatively few farmers living there, and they could be easily forced to move by the then military

¹¹⁹ <http://www.prosavana.gov.mz/> and <http://www.prosavana.com/> Many reports on ProSavana are on tinyurl.com/mozamb

¹²⁰ The government has prioritised six east-west "corridors": Maputo, Limpopo, Beira, Zambeze valley, Nacala, and Pemba-Lichinga. Two are major rivers, and the other four are along existing transport corridors which are being upgraded.

¹²¹ "Experiências do Serrado Brasileiro vão ser Aplicados na Savana Moçambicana", http://www.minag.gov.mz/index.php?option=com_content&view=article&id=148:serrado-brasileiro-savana-mocambicana&catid=49:noticias, no date, citing the Permanent Secretary of the Ministry of Agriculture, Daniel Clemente.

¹²² "Why do millions of people still go hungry", *JICA's World*, Tokyo, June 2012, p 10. See also "Japan and JICA's work in the cerrado of Brazil", *JICA UK Newsletter*, London, Oct-Nov 2012.

¹²³ Cristiano Zaia, "Rumo à África", *Dinheiro Rural*, agosto de 2012.

government. By contrast, the Nacala corridor has good soils, a high population density, and a land law that makes it difficult to move people.

Prodecer was aimed at large farmers. Between 1979 and 1999, 758 families were resettled on 334,000 ha of *cerrado* land, 440 ha per family.¹²⁴ Project investment was nearly \$900,000 per family.¹²⁵ "This was a major technological success that dramatically increased production and exports," the World Bank notes. But it adds that because of the high level of mechanisation, Prodecer did little to reduce poverty.¹²⁶

The Brazilian Cooperation Agency (ABC) contracted FGV Projetos, a company owned by Fundação Getulio Vargas, to draw up the ProSavana master plan (plano diretor). FGV Projetos then set up Fundo Nacala, which hopes to attract \$2 billion (60,000 million MT) in Japanese and Brazilian investment which will earn high rates of return at low risk.¹²⁷ "This is perhaps the best area for agriculture development on the continent, with estimated returned of 18% to 23% per year," said the coordinator of FGV Projetos, Cleber Guarany.¹²⁸

The large farm bias of Prodecer, the role of FGV Projetos, a campaign in Brazil to promote investment by large Brazilian soya farmers, and then in 2012 pressure on Nampula provincial officials to find land near the railway for big foreign investors combined to trigger a reaction by local community groups worried that they were going to lose their farms to a Brazilian land grab. There was a number of local and international statements by peasant groups opposed to ProSavana. Meanwhile, would-be Brazilian investors who arrived in Mozambique found they could not assemble large parcels of land in Nampula province, because the good land was already occupied. So ProSavana has been expanded to cover seven districts of Niassa, some far outside the Nacala corridor, where more land might be available.¹²⁹

So far, one large investment has been made under ProSavana, and three more reported but not confirmed. Pinesso¹³⁰, which has more than 100,000 ha in Brazil, is in partnership with Inteltec, part owned by President Armando Guebuza, and Américo Amorim¹³¹ of Portugal to farm soya in Lioma on former state farm land (see also chapter 4). The company is called AgriMoz. There are unconfirmed rumours of large land concessions in Niassa to a Brazilian company and to the Japanese Nitori Holdings¹³², and in Malema, Nampula, to a Mozambican company. But the *Financial Times* notes that Brazilian agribusiness SLC Agricola has reversed its plans to invest in the Nacala Corridor.¹³³ "We found out that in Mozambique we would lease the land from the government, because it's not possible to buy the land, and we would also need to negotiate terms of the leasing with the local tribe. So that means two negotiations. We also thought that the infrastructure projects would be more advanced," SLC said. Also, Brazilian companies cannot use genetically modified (GM) seed in Mozambique.¹³⁴

Major divisions within both government and civil society over the giant ProSavana programme became apparent at a meeting 8 August 2013 in Maputo, organised by community

¹²⁴ <http://www.campo.com.br/proceder/>

¹²⁵ "Análise da efetividade socioeconômica do Prodecer III no município de Pedro Afonso, Tocantins", Waldecy Rodrigues, Silvio Jucá Vasconcelos, Alan Kardec Barbiero, *Pesq. Agropec. Trop.*, Goiânia, 39(4), pp 301-306, out./dez. 2009.

¹²⁶ Klaus Deininger e Derek Byerlee, "The Rise of Large Farms in Land Abundant Countries: Do They Have a Future?", *World Development*, 40(4), p 702, 2012.

¹²⁷ "FGV lança fundo pioneiro de investimentos em agronegócio", http://www.agroanalysis.com.br/materia_detalhe.php?idMateria=1313

¹²⁸ Cristiano Zaia, "Rumo à África", *Dinheiro Rural*, August 2012.

¹²⁹ ProSavana covers 19 districts: Monapo, Muecate, Meconta, Nampula, Mogovolas, Murrupula, Mecubure, Ribaué, Lalaua and Malema in Nampula province; Cuamba, Mecanhelas, Mandimba, Ngauma, Lichinga, Majune and Sanga in Niassa province; and Gurué and Alto Molocué in Zambézia province.

¹³⁰ <http://www.pinesso.com.br/>

¹³¹ Also in partnership with Guebuza in Banco Unico.

¹³² In December 2013 the Tanzania Cotton Board announced that Nitori Holdings had been given 40,000 ha and planed to invest \$550 million (16 mil milhões de Meticias) in cotton production and processing. Abduel Elinaza, "Japan's Nitori to Invest Sh900 Billion in Cotton Farming", Dar es Salaam: *Tanzania Daily News*, 6 December 2013.

¹³³ Eleanor Whitehead, "Lessons from Brazil in Mozambique's Nacala Corridor", *This is Africa* (published by the *Financial Times*, London), 27 Feb 2013. <http://farmlandgrab.org/post/view/21714>

¹³⁴ Mozambique currently prohibits the use of genetically modified (GM) seed.

groups from Mozambique, Brazil and Japan.¹³⁵ The Ministry of Agriculture took the meeting seriously; minister José Pacheco spoke and three national directors attended.

Divisions on the government side were clear. The draft master plan being drawn up by FGV for the ProSavana office has not yet been shown to the Ministry of Agriculture or to local communities by the time of the August meeting, but had already been leaked and posted on the web.¹³⁶ One of the highest priorities is to "promote large-scale investment in each province" and the plan accepted that there would be some involuntary resettlement of peasant farmers.

But Raimundo Matule, National Director of Economy in the Ministry of Agriculture, made a detailed presentation, in which he stressed that while the target of the Brazilian *cerrado* programme was to promote big industrial agriculture ("*latifúndios*"), the target in Mozambique was to support tiny, small, and medium farms. And in a clear criticism of the ProSavana office, he agreed with community groups that "there is a clear lack of information on ProSavana and everyone is starting to speculate."

Peasants attacked Matule and accused him of lying, pointing to the draft master plan. But it became clear that Matule has not been given a copy of the plan; perhaps he too had only read a leaked copy on the web.

Matule stressed that his presentation "is government policy on ProSavana". But is it? In a recent interview, a senior Ministry of Agriculture figure told us: "ProSavana is big scale, and that is essential. We must have large scale monoculture production. We must consolidate land into large blocks."

Move to support small farmers?

The master plan had still not been published in mid-2104, but a "Concept Note" ("*Nota Conceitual*")¹³⁷ was published in September 2013. It continues to promote large scale investment for "industrial farming", but only in four districts of Niassa - Cuamba, Mecanhelas, Mandimba, and Ngauma¹³⁸ - and in the northwest half of Gurué district of Zambézia province, which is precisely the area discussed in chapter 4 where there are already serious land conflicts. The Concept Note says that "boundaries of communities" should be defined, in order to "identify suitable areas for investment," and calls for the preparation of a "data bank of land areas available for investment". The note admits that there are already land conflicts in the more fertile areas, and that there is a serious danger of conflicts over water.

But the Concept Note also makes some effort to deal with the criticism. It admits that smallholder production is low because they cannot obtain good seed, fertiliser, and machinery; they often cannot sell their produce, and when they can, the prices are low. To support small farmers the ProSavana Concept Note proposes:

"Improve access to chemical fertilisers for farmers in general, introducing a subsidy system.

"Improve access to quality seeds at an accessible price.

"Increase the number of suppliers of mechanised agriculture services in order to create a climate where the farmers can use mechanisation services at an affordable price.

"Improve the running of farmers associations and develop modern agricultural cooperative models.

"Establish financial support for individual farmers and for cooperatives and associations which bring together small and medium commercial farmers."

All of these would be widely agreed.

But the Concept Note bases its analysis of smallholder farming on three premises, all of which are controversial. First, it argues that most peasant farming is shifting cultivation or fallow agriculture - "a system in which a relatively short period of continuous agricultural production is followed by a relatively long fallow period, with land regenerated by secondary vegetation." It

¹³⁵ Sergio Schlesinger, *Cooperação e Investimentos do Brasil na África – O caso do ProSavana em Moçambique*, Rio de Janeiro: FASE - Federação de Órgãos para Assistência Social e Educacional, 2013, http://issuu.com/ongfase/docs/caderno_prosavana_fase/3?e=4383667/4356427

¹³⁶ <http://farmlandgrab.org/post/view/21996>

¹³⁷ "Elaboração do Plano Director do Desenvolvimento Agrícola no Corredor de Nacala: Nota Conceitual", Maputo: ProSavana, <https://www.prosavana.gov.mz/index.php?p=biblioteca&id=6>

¹³⁸ The three northernmost ProSavana districts, Lichinga, Majune and Sanga in Niassa province, are not seen as appropriate for industrial farming because the soil is less fertile and large tracts of land have already been allocated for timber and mining.

argues that this cannot continue because it ties up too much land unproductively. "The transition from traditional agriculture to a fixed agriculture is the main premise for increasing productivity through the introduction of technology intensive agriculture."

Second, it calls for the development of "agricultural clusters" which would bring together input suppliers, machinery repair and supply, buyers, processors, and local offices of government institutions. This would link small commercial farmers to bigger farmers and to value chains.

Third, it argues: "Through the contract production system, local farmers are expected to benefit from stable markets and obtaining quality agricultural inputs and improved cultivation techniques, while agribusiness companies expect to benefit by reducing costs of initial investments and ensuring a stable supply of products.."

Civil society response

Civil society and peasant associations have increasingly come out against ProSavana. The strictest line is taken by Justiça Ambiental (Environmental Justice; FoE Moçambique), which defends the right of peasants to continue shifting cultivation and is strongly opposed to contract farming, which it says "will never improve the life of small farmers".¹³⁹ Their goal is to stop ProSavana.

Critics see the attempt to move peasants from shifting to fixed farming as simply a way to release land for investors. And it is clear that at least in the short term most peasants do not want to increase productivity per hectare, probably due to cost and risk issues, or to move from shifting to fixed farming. Even the Concept Note admits: "Although farmers can easily improve productivity of many crops, their only concern is currently with increasing production through expansion of cultivated areas."

In this book, we are taking a position in the middle. We support the desire of peasants who want to expand their area. But we also argue that it will be necessary for them to intensify and to increase productivity on that expanded land and to become commercial farmers. For us, the first step is for farmers to move to fixed agriculture using the entire area that they used for shifting agriculture. And for that we do support contract farming - under proper conditions as set out in the next chapter. On the other hand, we do not see any urgent need to force peasants to give up shifting cultivation. But the average farmed plot is less than one hectare, and we do not see any way in which a family farming only one hectare can move out of poverty; it will require either a job in addition, or farming a larger area.

As is the Ministry of Agriculture, so too civil society is divided. "There is a difference of opinion," admitted an activist from the Nampula Civil Society Platform (Plataforma Provincial da Sociedade Civil de Nampula, PPOSC-N). "Activists in Maputo say there is nothing to talk about so you cannot negotiate. But we want to prevent ProSavana making the mistakes of Prodecer and direct the money to small producers, so we want to continue dialogue."

But the Concept Note and a visit to Mozambique of Shinzo Abe, Prime Minister of Japan, in January 2014 hardened the civil society position. Japan promised \$672 million in concessional credits for infrastructure and agriculture. In a statement to a business seminar as part of the visit, President Armando Guebuza called for "large scale agricultural production."¹⁴⁰

In a statement on 13 January 2014, the Nampula platform said: "At the level of Nampula, the PPOSC-N analysed the ProSavana Concept Note provided by the Provincial Directorate of Agriculture, and our debates ended with the rejection by Civil Society of the Concept Note, and the recommendation that this note should be drafted in a participatory way, consulting peasant organisations, and with the participation of civil society and specialised academics."¹⁴¹

The statement continues that Prime Minister Abe was effectively making aid conditional on the support for Japanese foreign investment in Mozambique. And it concludes: "In our opinion, the

¹³⁹ "Fuga de um exemplar do Plano Director para o programa ProSavana ao Norte de Moçambique confirma o pior", signed by Justiça Ambiental, two other Mozambican organisations, and 21 international organisations, 29 April 2013.

¹⁴⁰ Armando Guebuza, "Moçambique e Japão: Países amigos diversificando a cooperação para o bem-estar dos seus povos", Comunicação na abertura do Seminário sobre Negócios organizado no quadro da visita de Sua Excelência Shinzo Abe, Primeiro-Ministro do Japão. Maputo, 12 January 2014.

¹⁴¹ "Comunicado de Imprensa relativo à visita do Primeiro-ministro do Japão, Sr. Shinzo Abe a Moçambique," Plataforma Provincial da Sociedade Civil de Nampula, 13 January 2014.

'generous support' of the Japanese government is being carried out in a framework of continued colonialism.."

The lack of discussion and consultation seems to be a major problem. And the Concept Note admits that in meetings with what it calls "interested parties (stakeholders)", only 19 of the 303 people consulted were farmers.

Moving forward, but only slowly

Compared to seven years ago, when we last visited, rural Nampula remains very poor although there is now some commercial agriculture where there was none before. Only islands, to be sure, but they are spreading new ways of thinking and a more business-like approach. A growing number of individuals and associations are becoming small commercial farmers. It has taken a decade, but the seeds planted by the more hands-on, practical agencies such as Clusa and TechnoServe have produced at least an initial crop.

But there are layers of distrust. Association presidents, traders and government officials are all dealing in volumes of money which are incomprehensible to a person on 1000 MT/y. Few associations are cohesive, as members distrust each other and all too often distrust the president. Land squabbles seem permanent and there are widespread reports of senior Frelimo and government people demanding good land, which puts pressure on present occupants. And ProSavana is often seen as a government-backed land grab for big agro-business.

Although sales to cassava processing company Dadtco are increasing, the company is finding a residual distrust, with farmers still not yet convinced that Dadtco will continue to buy over the long term. Thus they have been slow to make the two shifts that Dadtco would like – leaving the cassava in the ground for up to one and a half years, to increase the starch content and reduce fibre, rather just a year before most farmers harvest, and selling wet, newly-harvested cassava to Dadtco rather than dried cassava chips to traditional customers. Both would increase income, but small farmers are keeping their options open.

Perhaps our judgment about what we think is happening in Nampula can be encapsulated in what we think about Jaime Agostinho in Ehiquite. Do we see a decade of aid which has produced very little? Or do we see a group of people in a very contradictory environment who have developed the skills and confidence to move ahead? Is a decade too long to wait, or is it inevitable and needs to be planned for?

Is too much missing?

Three players seem absent here. The government and the domestic banking sector have played a small role so far – although their support could be very useful to spur on these changes. And the much hyped big private investors demanding tens of thousands of hectares for industrialised farming are nowhere to be seen.

Instead, a key motor has been the domestic and foreign private sector with a long time horizon. Mozambican traders are more active and this has produced a market. But satisfying that market requires inputs, ploughing, technology, and credit which is not readily available. The companies making the most impact are those that are willing to invest for 10 or 20 years ahead, which are building businesses for their children and grandchildren, and are building businesses that depend for their success on Mozambican commercial farmers. This is partly about different kinds of capital. US and UK style finance capital, with hedge funds and investors who want quick profits within months or a year or two, and claim to be able to do massive and hugely productive industrial farms very quickly bringing in global systems, have promised much but delivered nothing. However another group is having more success: Nordic, German, or family capital, or companies with a history of investment in Africa, and that treat 10 years as the minimum start-up time, are ready to build up slowly and learn local lessons, and are investing for the long term. They are responsible for the beer and chickens that are driving the new group of emergent farmers that are spurring agricultural growth in Nampula.

Foreign investment is useful, but Mozambique needs to be more cautious. Hedge funds and giant agribusinesses which are only looking for cheap land in Africa have not been successful in Mozambique and seem unlikely to be. Government will need to be more careful and to select those whose own commercial success depends on their willingness to support Mozambican commercial farmers.

Markets are the driving force for small commercial farmers, who seem willing to grow anything that has a good price and assured sale. And there is a growing market for soya (to feed chickens), sesame (for export), beans, peanuts and some other crops. But as we saw with soya in Gurué, the market is not enough; the second need is the ability to expand area from the 1 ha that can be farmed by a family with hoes, which would mean access to tractors or animal traction, and enough money to hire people to weed larger areas. To be successful, commercial farmers also need credit, technical support, and preferably a long term relationship with a supportive institution or business.

Lack of finance both for emergent farmers and for contract farming companies remains a huge bottleneck. Farmers cannot afford the fertiliser, pumps, motor cultivators and other essential things to become commercial farming. It is hard for farmers to operate without subsidy, as they are asked to do in Mozambique. In Brazil, the investment under Prodecet, which is the model for ProSavana, was \$1600 per hectare. In Rhodesia in colonial times, the subsidy to white farmers was the current equivalent of \$100 per hectare per year. EU subsidies under the Common Agricultural Policy are \$750/ha/y. Investments at this level would make a huge difference to emergent farmers in Mozambique.

This chapter has shown that Nampula has many peasants who wish to continue shifting cultivation and many others too distrustful of contradictory interventions, but it also has thousands of smallholders who want to be commercial farmers. These farmers need to expand their land area and upgrade their technical level - and they are already showing what they can do. But land conflicts are increasing. To support Mozambican commercial farmers means they will occupy much of the available arable land, leaving little for foreign investors. So Nampula again asks the question: should Mozambique promote its own commercial farmers, or should it encourage foreign investment in industrial farming? It cannot do both.

8. Contract farming - way forward or dead end?

Contract farming is not new, and has been in use for a century. In the United States, contract farming accounts for 40% of all farm production. It is commonly used for production of poultry, peanuts, tobacco, sugar beets, dairy products, and pigs, and is particularly important for large family farms.¹⁴² In South Africa, it played a major role in the apartheid era in promoting white farmers.¹⁴³

There are two good surveys of contract farming, by Carlos Oya¹⁴⁴ of the School of Oriental and African Studies (SOAS) in London and by Rebecca Smalley¹⁴⁵ of the Institute for Poverty, Land and Agrarian Studies (PLAAS) in Cape Town. Both point to the huge diversity of contracts, which means that no generalisations can be made about all contract arrangements. Some contracts are beneficial to farmers and some are not. The question for this chapter is if contract systems are appropriate for Mozambique - if they promote development and poverty reduction - and especially if they offer an alternative to plantation agriculture and large land concessions to foreign investors.

Under a contract, the farmer agrees to sell all or part of their crop to a contract company, which promises to pay an agreed price if the produce meets certain minimum standards. The contract company usually provides seeds and pest control, often provides fertiliser and technical assistance, and sometimes does land preparation and may even provide loans to pay seasonal labour. For crops which have very strict quality restrictions, such as export vegetables, or where there is organic certification, the contract company may control the farming very closely. For other crops, such as maize, they may simply hand out seeds and buy the product five months later. Normally, anything supplied by the contract company is on credit, and the cost is deducted from the value to the product sold - often plus interest and a fee.

Proponents of contract farming see it as "win-win". The contract companies avoid direct involvement in production and labour supervision and lower their investment costs, while the farmers access reliable markets, credit and technology that would otherwise be unavailable. Opponents stress the huge power imbalance, and argue that the contract companies are usually linked to global agribusinesses which continue to squeeze the farmers to the point where there is no development or poverty reduction, and where the stress on export crops reduces food security.

Proponents see contract farming as a way whereby local farmers can enter global value chains, overcoming the entry barriers and profiting from new crops and markets. Opponents see it as a form of neo-colonialism, where agribusinesses can again exploit African peasants.

There is also a division in global agribusiness. Some large commodity traders continue to want the tight control over production that can only come from having their own plantations and thus want large tracts of land. Others follow the globalised model of subcontracting that is used in other industries such as clothing. This recognises that the profit does not come from production but from processing, distribution and branding, so the actual production is subcontracted, and contract farming follows this model.

Contract farming has become fashionable with the World Bank and some donors, so there is also pressure on agribusinesses to do some contract farming as part of "corporate social responsibility" to show they are "helping" small farmers. Indeed, we note that some companies are only doing contract farming because that is the sole way to obtain credit, as is happening with AgDevCo in Manica. Contract farming can only be expected to work if it is a core part of the value

¹⁴² Kay McDonald, "US Statistics on Farming by Contract", Boulder, Colorado, USA: Big Picture Agriculture (website): <http://www.bigpictureagriculture.com/2010/09/us-statistics-on-farming-by-contract.html>, 2010. See also Erkan Rehber, "Vertical Coordination in the Agro-Food Industry and Contract Farming: A Comparative Study of Turkey and the USA", Research Report No. 52, Storrs, Connecticut, USA: Food Marketing Policy Center, Department of Agricultural and Resource Economics, University of Connecticut, 2000.

¹⁴³ S. Freguin-Gresh, M. d'Haese & W. Anseeuw, "Demythifying contract farming: Evidence from rural South Africa", *Agrekon: Agricultural Economics Research, Policy and Practice in Southern Africa*, 51(3), p 24-51, 2012.

¹⁴⁴ Carlos Oya, "Contract Farming in Sub-Saharan Africa: A Survey of Approaches, Debates and Issues", *Journal of Agrarian Change*, 12(1), Janeiro de 2012, p 1-33.

¹⁴⁵ Rebecca Smalley, "Plantations, Contract Farming and Commercial Farming Areas in Africa: A Comparative Review", Cape Town: Land and Agricultural Commercialisation in Africa (LACA), Institute for Poverty, Land and Agrarian Studies, 2013.

chain of the contract company and accounts for a significant amount of its supply; if it is only a small "add on" in order to obtain credit or for public relations or "social responsibility", it will never be seriously supported and will later be dropped. (See chapters 2 and 5). Smalley warns that "agribusiness contractors have been known to tighten the terms of contracts or retreat to own-estate production over time".

Both Oya and Smalley make the point that contract companies offer nothing which was not earlier provided by the government in the era of marketing boards, large government agricultural support services, and state agricultural banks. During the neo-liberal era of the 1980s and 1990s, these were all dismantled in Africa (but not in the developed countries) under pressure from the IMF, World Bank and donors.¹⁴⁶ The idea was that African agriculture would flourish under the free market. But just as it did not happen in the US and Europe, so the free market did not promote agriculture in Africa. By 2000, the World Bank was beginning to see the failure of the total free market and neo-liberalism in Africa, and accepted the need to restrict markets. Looking for a form of controlled markets that did not involve the state, it promoted contract farming. But big foreign investors all demand subsidy and preferential treatment from the government, which also brings the state back in.

The Mozambican government, in its 2011 Strategic Plan for the Development of the Agrarian Sector (*Plano Estratégico de Desenvolvimento do Sector Agrário*,¹⁴⁷ PEDSA), admits that peasants did not increase production in response to market liberalisation, due to the standard list of problems - no market, low prices, no credit, etc. Contract farming is promoted as a way of solving these problems. The PEDSA notes: "Contract farming such as the promotion of tobacco and cotton, coupled with credit in kind, is an example to emulate."

Thus contract farming can be seen as an alternative - perhaps second best - to two other important models. One is the large state involvement of three decades ago as a way of promoting smallholders, which is still used in the developed countries and parts of Asia, but no longer permitted for Africa. The other is the dual model of huge plantation investment while trying to keep peasants on their 1 hectare, which is not working in Mozambique or elsewhere in Africa. Although on the surface, contract farming seems to be a free market arrangement, in fact it requires substantial public involvement, particularly in terms of risk sharing. Contract companies demand that the government either create monopsonies, through exclusive purchase areas as with tobacco, or that the international public sector does all the initial preparation, as with soya. But to work, the government must also provide regulations and other support to protect the peasants, reduce the power imbalances, and help to "level the playing field". Contract farming brings the government back into agriculture, and much of the discussion is about the mix of public and private.

Avoiding the free market

The last thing that contract companies want is a free market. They want their producers tied to them and with nowhere else to sell their produce. Economists call this a "monopsony". A "monopoly" is where there is only one producer or seller but many buyers; a "monopsony" is where there are many sellers but only one buyer.

The two traditional contract farming crops, tobacco and cotton, are monopsonies because the government awards a company exclusive rights to a district or an area, in which producers cannot sell to another company. The other form of monopsony is where the buyer has a global value chain, and there are no other buyers of the crop, as occurs with specialised export vegetables. Fresh cassava is a monopsony with a single buyer. Seed is an effective monopsony; although maize seed can be sold as food, it gains only half the seed price.

By contrast, maize, soya and chickens are contract crops with many different buyers. This gives the farmer more power, but the contract companies want to prevent what is called "side selling," where the farmer sells to a trader or other buyer, instead of the contract company. Some buyers, such as the World Food Programme, offer higher prices to maintain farmer loyalty. For

¹⁴⁶ Oya points out that the World Bank "was one of the core donors supporting state-led outgrower schemes since the 1960s". But "the historical memory of the Bank, as so often, seems lacking", and these state agencies were later "liquidated under World Bank and donor pressure."

¹⁴⁷ Ministério da Agricultura, *Plano Estratégico de Desenvolvimento do Sector Agrário* (PEDSA), Maputo: MinAg, 2011, pp 19-20

chickens and soya beans, contract companies try to build loyalty by providing services that make the crop more profitable.

There are three problems with monopsonies. First is that the buyer has total control over price and over assessment of quality, for example deciding if the cotton is top grade or second grade. Second, the buyer can break the contract without any real penalty, especially when world markets change suddenly. This happened with cotton in 2013, when contract companies failed to buy. And it happened in Manica with the first attempt to export vegetables a decade ago; initially farmers were producing baby corn but then the price fell in Europe, so the contract company simply stopped buying.

The third problem is that government has to approve a monopsony, and that creates space for corruption. On 6 August 2010, Universal Corporation (trading as Mozambique Leaf Tobacco, MLT) pleaded guilty to charges brought by the United States Securities and Exchange Commission (SEC), and paid fines and penalties of \$9 million. Universal admitted that between October 2005 and July 2006 MLT paid cash to "a governor" and "gave gifts including supplies for a bathroom renovation, personal travel on a company jet, and cash payments to officials in Mozambique." Bribes totalled \$165,000 (then 4 million Meticaís). These payments related to the transfer of the exclusive license to buy tobacco in Chifunde district, Tete – one of the best districts for tobacco – from Dimon to MLT. The SEC said that \$86,830 (then 2 million Meticias) in bribes relating to Chifunde brought MLT an extra \$457,260 (11 million Meticaís) in profits in the first year alone.

It may have been profitable for MLT, but local tobacco growers were not pleased. President Armando Guebuza went to Chifunde on 5 May 2006 as part of one of his Open Presidency tours, and was greeted by a hostile crowd of people who said they preferred Dimon. They said Dimon was much more supportive of the community, both with local projects and with agricultural extension officers supporting not only tobacco but food crops as well. And they complained that MLT graded the tobacco lower than Dimon¹⁴⁸ and paid lower prices.¹⁴⁹

Tomas Mandlate was the governor of Tete until January 2005 and then Minister of Agriculture until he was dismissed in February 2007. He was replaced by Ildefonso Muanantatha as governor of Tete until he was dismissed at the end of 2009. No action was ever taken in Mozambique against anyone whom MLT admitted it had bribed, while MLT remains the biggest tobacco buyer in Mozambique and still has the Chifunde concession.

Who benefits?

The widespread use of contract farming around the world means that many farmers think the arrangement is beneficial. But it is important to look behind this, to see who gains and who loses.

The huge variation of contract arrangements means there is no consistent view as to their impact on women. Two broadly cited problems are that men often sign the contracts and receive the money, and that women in the household are exploited as labourers. But it is also noted that women are able to gain more independence. Some are able to obtain contracts and thus become commercial farmers, and in Mozambique there are important female farmers of vegetables and potatoes. Also, women gain more jobs both in contract company processing plants, and on the farms of larger contract farmers.

Very small farmers with 0.25 ha or 0.5 ha have no negotiating power with contract companies and it makes no difference to the contract company if a tiny individual farmer continues or not, and for that reason, some contract companies prefer many tiny farmers. The alternative is to work what we have called small and medium commercial farmers. These larger farmers and associations have more negotiating power but also require less management, and it is easier to train these more dynamic farmers to meet quality and production standards. Both routes are being followed in Mozambique, but there seems to be a growing preference by contract companies for the small and medium commercial farmers.¹⁵⁰ This means that often the main beneficiaries of

¹⁴⁸ As part of the same action, Alliance One, which owns Dimon, paid \$20 million in penalties to the SEC for Dimon's bribery of officials in Kyrgyzstan and Thailand.

¹⁴⁹ Joseph Hanlon and Teresa Smart, *Do Bicycles Equal Development in Mozambique?*, Woodbridge, Suffolk, UK. James Currey, 2008, p 54.

¹⁵⁰ Oya notes this is happening more generally, particularly for crops for European supermarkets which have high quality standards and now require "traceability" back to the initial farmer.

contract farming are those farmers who are already somewhat better off, and have more land and experience. Thus contract farming does not, in general, directly benefit the poorest.

Accumulation and transformation

This returns to debates about the capitalist transformation of peasant agriculture which have been going on for more than a century. Lenin in 1905 argued that there were two possible ways of agrarian transformation. One is "accumulation from above", in which landlords and property owners consolidated their power, while the peasants remained as peasants. He contrasted this with democracy and "accumulation from below" in which it was the peasant producers themselves who accumulated and became small capitalist producers. Indeed, Lenin in 1907 cited the United States as an example of accumulation from below. He saw this as a basis for the "bourgeois democratic political system" and for the growth of rural capitalism.¹⁵¹

In Mozambique, large plantation farming is accumulation from above and benefits foreign companies and some in the Mozambican elite, without significantly changing the peasant rural economy, and prevents the emergence of a rural middle class.¹⁵² By contrast, contact farming promotes accumulation from below and starts a rural transformation. Such transformations are not smooth, and this one also promotes social differentiation. Lenin recognised that "the greater the prosperity of the peasantry in general, the more rapid the process of differentiation among the peasantry" with a minority of rich and majority of poor peasants. And we are seeing this in Mozambique, with most of our 68,000 small and medium commercial farmers having become at least better off peasants in the past two decades, and with a small but growing rural middle class.

Perhaps the key point of this first step in a rural transformation is that small and medium commercial farmers, because their farming is less mechanised, are creating more jobs than the big plantations. Also they are spending their increased income locally, promoting the local economy. Thus we would argue that it is essential to prioritise the small commercial farmers, and see no problem that contract farming helps them preferentially. The majority of Mozambican farmers, who use less than 1 ha, will remain poor if that is all they farm. They do not grow enough to feed their family, and sell very little. The essential cash to buy the food they cannot produce comes from *ganho-ganho* (day labour) on other people's farms, or other labour income. Perhaps 0.25 ha of a contract crop would earn enough money to buy more food than they could grow on that 0.25 ha, and raise their living standards - but it is a marginal gain. Over time, these farmers - or their children - will find paid labour and use their small farm for only part of their food, or they will expand to be small commercial farmers.

Good jobs?

But what kind of jobs are being created? Rebecca Smalley comments that "plantations have historically provided extremely poor wages and working conditions." There is a core of tractor drivers, skilled workers and supervisors who do become a labour elite, with permanent jobs, protective clothing, and slightly higher salaries. And for all permanent workers, plantations do pay at least the minimum wage, and the Ministry of Labour will enforce that. But the majority of workers on most plantations are seasonal, paid by the day or the task. Most importantly, so far, big plantations are creating few new jobs in Mozambique.

One reason why contract farming is more productive than plantations is that small and medium commercial farmers can supervise their workers more closely. Many will be family members. There will be a few permanent workers, and usually some seasonal workers. We saw that the *ganho-ganho* rate paid by commercial farmers was often only half the minimum wage. So labour on contract farms, both family and *ganho-ganho*, is more exploited than on plantations. But as we also saw, the lack of jobs and cash incomes is so severe that in Gurué people were flooding in to work for half the minimum wage.

¹⁵¹ Michael Neocosmos, "The Agrarian Question in Southern Africa and 'Accumulation from Below'," Uppsala, Sweden: Nordiska Afrikainstitutet, 1993. <http://nai.diva-portal.org/smash/get/diva2:273508/FULLTEXT01.pdf>

¹⁵² See also Smalley, p 19.

Contracts, risk and a role for the state

Farmers are usually at a disadvantage compared to contract companies, which are larger and more experienced, and can hire lawyers. The farmer is often not well educated. Often the agreement is verbal, not written, or if it is written it is much too complex to be understood by an ordinary person.

The United Nations Food and Agriculture Organization (FAO) has a Contract Farming Resource Centre¹⁵³ which has produced a document "Guiding principles for responsible contract farming operations." It makes an obvious point that contracts must make clear what each party is expected to do. The delivery and quality responsibilities of the farmer and the inputs, support and payment commitment by the contract company must be spelled out. Various studies show several other issues are also important:

1) **Clarity.** There should be a document written in clear and simple Portuguese. Even if the agreement with the farmer is verbal, it needs to be backed up by something in a written form. Farmer associations are useful, because at the least the most educated member can check to see if the contract says what the farmers were told.

2) **Transparency.** Grading of crops and criteria for charges and payments must be transparent and able to be checked.

3) **Disputes.** There must be a dispute resolution system, agreed in advance. Mozambican courts are slow and expensive, so there should be some local system - perhaps a trusted person to mediate in the first instance. In 2010 the Ministry of Labour established the Labour Mediation and Arbitration Commission (Comissão de Mediação e Arbitragem Laboral, COMAL), which now handles many labour disputes, and there is also the Centre for Commercial Arbitration, Conciliation and Mediation (Centro de Arbitragem Comercial, Conciliação e Mediação, CACM). So an agreement to mediate or arbitrate would be sensible.

The biggest issue is risk sharing. Farming is inherently risky. Pests and weather can destroy a crop and it is not the fault of the farmer. Who is responsible? Some contracts say that even if the farmer has no crop and it is not her fault, she must still pay for the seed, fertiliser, etc. This means a debt can build up from one season to the next. But other contracts include a "*force majeure*" clause, which says that if the crop was lost because of a major event such as drought, flood, or insects, then the farmer does not have to repay the cost of the inputs. So the risk is shared - the farmer loses the labour of herself and her family (and perhaps paid workers) but the contract company takes the loss on inputs and supplies. A large company may take the risk themselves, or it may buy insurance. We discovered in our interviews that the verbal contracts between company and farmer often do not specify what happened in the event of crop failure. This will be a cause of conflict in the future if these contracts are not clarified.

Thailand has been cited as an alternative model (see Chapter 1), and there is another Thai example which demonstrates the complex roles of the state and private. In the northeast, also the area of the big rice programme, the government wanted to encourage a dry season crop. First, the government installed an irrigation system. But farmers were reluctant to use it. Even though dry season crops could be quite profitable, they required hard work, learning new skills, and substantial risk. So government joined with contract companies. Government provided the training, extensions services and demonstration plots and identified villagers to lead the programme. The contract companies provided inputs on credit and even gave loans to hire labour in addition to the family. But a study¹⁵⁴ of the programme showed that the single most important factor in causing farmers to join was risk reduction. The contracts had a *force majeure* clause and if the crop was lost due to such an event, the loan for both inputs and workers was cancelled. It was a good example of how infrastructure is not enough, and how a government working with contract companies could stimulate production.

Risk reduction is not necessary just for the farmers. In chapter 5 we saw the key role of the "international public sector" over seven years creating soya as a crop, making it profitable, and then working with contract farming companies to help them promote it. Indeed, the contract companies hired some of the NGO people, precisely because they were trusted by the farmers. Global agribusiness will only invest if their risk is minimal. But that increases the on-going role of

¹⁵³ <http://www.fao.org/ag/ags/contract-farming>

¹⁵⁴ Vincent Benziger, "Small fields, big money", *World Development* 24(11), pp 1681-1693, 1996.

the international public sector. For example, in Gurué, informal networks mean that NGOs keep a check on the contract companies, to ensure fairness.

If the Mozambican government wants to promote contract farming and ensure that the farmers and rural communities benefit, it could take three steps:

1) Apparently Mozambique has no regulations governing farming contracts. So an important first step for the government would be guidelines or regulations which set out what is expected from contracts; this would empower the farmers and their associations. There should be some guidelines around fairness, preference for women, and the use of mediation for dispute settlement.

2) Companies should be required to include a *force majeure* clause. Two government actions would support this: Government could offer subsidised crop failure insurance to the contract companies. And government would need to introduce calamity monitoring, to say when loans should be cancelled and the insurance would pay; an agency would say area X was damaged by flood and crops were lost, or area Y had no rain for two weeks at a key point in January.

3) Finally, government should follow the Gurué soya model. It should work with the international public sector - NGOs, donors and international agencies - on the 5-10 year process of developing more crops in other areas which could then be exploited by farmers and contract companies.

Risk sharing is absolutely key in expanding contract farming, and the government and international public sector both have essential roles.

A first step in this direction is the Investor-Local Community Partnership Project (*Pró-Parcerias*) of the Ministry of State Administration,¹⁵⁵ which is attempting to identify communities suitable for contract farming, make links with possible contract companies, and develop fair contracts. It has already identified contracts written in English, rather than Portuguese, and which do not follow Mozambican law. It has also identified two problems, the weaknesses of communities in negotiating contracts, and the lack of dispute resolution mechanisms, which has led to interventions by district governments.

One other essential government intervention is not directly related to agriculture. Many countries now use cash transfer systems. South Africa has both a pension and a child benefit that goes to all South Africans of the right age. Brazil has a *Bolsa Família* (family grant) which goes to 40% of the population. Such grants have two important functions. First, and most important, they give additional money to the poorest, and directly reduce poverty. Second, and linked to the topic of this book, they serve as a form of risk insurance, if a farmer takes a risk on farming a new crop, investing in fertiliser, or signing a farming contract and the crop fails and money is lost, the farmer knows their family will not starve because the cash transfer provides some money to buy food. Cash transfers are thus linked to support for contract farming in two ways. First, they raise the income of the poorest who are not involved in contract farming. Second, for the slightly less poor, they provide a form of insurance which will allow some farmers to experiment and move up to contract farming. Mozambique does have an initial cash transfer programme, the Food Subsidy Programme (Programa Subsídio de Alimentos, PSA), which now provides a minimum of 250 MT per month to 300,000 families. This form of social protection could be expanded as part of the promotion of contract farming.

Finally, note should be taken of the increasingly number of proposals for core estates plus contract farming for neighbouring farmers. The core estate often has a processing plant. There is an argument to be made that a contract company can use its own farm to build its own skills and equipment base, with agronomists, mechanics, machinery, etc. Such a farm also ensures that the contract company suffers the same climatic and pest conditions as the contract farmers. And it provides a space for seed production and experimenting with new crops or new varieties. The danger is that if there is a large core plantation which provides most of the production, then the contract farmers will always be marginal and contract farming will eventually be discontinued. Here the government plays a key role. Any land concession over 1000 ha requires approval of the

¹⁵⁵ The Investor-Local Community Partnership Project (Projecto de Parcerias entre Comunidades Locais e Investidores - Pró-Parcerias) is coordinated by the National Directorate to Promote Rural Development (Direcção Nacional de Promoção do Desenvolvimento Rural, DNPDR) in the Ministry of State Administration (Ministério da Administração Estatal, MAE).

Minister of Agriculture and over 10,000 ha requires approval of the Council of Ministers. Such proposals often include a promise of contract farming, to encourage approval, but once the concession is granted no one checks to see if the contract farming is continued. Thus proposals must be examined more closely to see what is the mix between contract and plantation production. Requests for core plantations above 500 ha suggest a bias toward own production, and probably require some agreement with government and on-going monitoring by the ministry. Perhaps the best guideline should be that no more than half of total production can come from the company's own farms.

Given the vagaries of the free market and the number of new ideas promoted by government and donors that have failed, it is hardly surprising that most peasant farmers stick with the tried and true methods which at least provide their family with some food most of the time. And most would actually prefer a secure job with a regular wage at the end of the week - even a low wage. But if we want to promote a modernisation of the countryside that brings a rise in production, productivity and incomes, an initial step should be support the more dynamic emergent farmers who want earn a better income from the land. We have noted that 68 000 Mozambicans have become commercial farmers, most in the past decade. Contract farming has played an important part in their growth. Contracts have many problems of power imbalances, risks, and poor wages. Mozambique's government can - and should - intervene to reduce these problems, as have governments in other countries. But whatever the government does, contract farming will continue to play a necessary part in the promotion of emergent farmers.

9. Attitudes are changing - slowly

Faith in large scale industrial farming driven by foreign investment remains strong, despite the growing evidence that there are no economies of scale in the actual farming. Nevertheless, the last decade has seen some shifts in attitudes, a broader debate, and some very sharp divisions within and between organisations. The position remains confused and contradictory, as this chapter will show. But the new debate has led to some rethinking on the place of international agribusiness investment.

There are a number of reasons why large industrial farming continues to be supported. For some decision-makers, big and high-tech must be better. For politicians and national directors, rural development is an intractable problem. It seems easy to believe the false promises and fine dreams conjured up the foreigners selling an investment and promising to solve the problem of poverty - especially when they also offer high profits to Mozambican partners. And since the financial crisis of 2008 and the election of more conservative governments in their own countries, local embassies are under increasing pressure to promote investors from their countries.

But even this has triggered debate. The failures of plantation investment have become more well known, so agribusinesses are looking for alternatives. Wide reports of "land grabs" have made investors and governments more careful. Aid agencies, too, look for some way to balance agribusiness investment with rural development. The first response has been "corporate social responsibility" - building schools and health posts, handing out seeds, and trying not to come into conflict with local peasants. But others say this is not enough, and a more fundamental rethinking is required.

Paul Collier, the prominent neo-liberal Oxford economist and author of the 2007 best-seller *The Bottom Billion*, is an example of someone who has changed his mind on big farms. In a 2008 article in the prestigious journal *Foreign Affairs*,¹⁵⁶ Collier argued that "in Brazil, large, technologically sophisticated agricultural companies have demonstrated how successfully food can be mass produced". He claimed that "the Brazilian model of high-productivity large farms could readily be extended to areas where land is underused", and he criticised the way African governments were unwilling to give land to Brazilian companies and "back large commercial agriculture." In 2014 his story has changed completely. In the equally prestigious journal *World Development*,¹⁵⁷ he writes: "Some African governments have been surprisingly willing to entertain 'mega-farm' deals allowing 'landgrabbing'. In these deals investors, often encouraged by foreign governments, take a very long lease on a huge area. Is this the alternative? Not at all." He concludes that mega-farms are "not an appropriate vehicle for African societies."

In Mozambique, ProSavana shows the unresolved tensions and contradictions (see chapter 7). Originally conceived by Japan and Brazil as a way of promoting large-scale foreign-owned plantations, protests in Mozambique, visits by would-be investors, and a closer look at the history of the Brazilian *cerrado* have all led to some questioning. At the highest level in Mozambique, Brazil and Japan, the vision of rows of giant combine harvesters marching across huge plantations is still maintained. But within the Japanese and Brazilian aid agencies and the Mozambican Ministry of Agriculture there are clear divisions; some say corporate social responsibility is not enough and aid money should be used to support small and medium farmers.

Annan vs Obama models

Increasing rural poverty, despite high growth rates and billions of dollars in aid, makes Mozambique a paradox. Mozambique was highlighted in two contrasting models of agricultural development, both launched in May 2012. The Obama model was backed by the G8 in Washington, while the Annan model was proposed by the Africa Progress Panel (APP).

The APP is heavyweight and conservative, chaired by former UN Secretary-General Kofi Annan and with members including a former IMF head, a former US Treasury Secretary, and Mozambican Graça Machel. It said one of the biggest dangers in Africa is the growing inequality between rich and poor, which is creating a threat of social instability. In sub-Saharan Africa "the

¹⁵⁶ Paul Collier, "The Politics of Hunger", *Foreign Affairs* 87(6), 2008.

¹⁵⁷ Paul Collier and Stefan Dercon, "African Agriculture in 50 years," *World Development*, Vol. 63, pp. 92–101, 2014

current pattern of trickle-down growth is leaving too many people in poverty."¹⁵⁸ And the panel warns that Mozambique is one of the more unequal countries in Africa. The APP points out that Mozambique is a net importer of staple foods, despite having huge agricultural potential. It calls for "fundamental change" in both donor and African government policies. "Raising the productivity of smallholder farmers is critical", the report says. "Smallholder agriculture must be placed at the centre of a green revolution in Africa." This will require more government action and more support for smallholder farmers. This could be called the Annan model.

The second agricultural model for Mozambique was agreed in Washington, when G8 leaders adopted a New Alliance for Food Security and Nutrition proposed by President Barack Obama and USAID. The idea is to use giant agribusiness to end hunger in Mozambique and five other countries. An early project in Mozambique was to be support for Cargill, the giant grain trader and largest private company in the world, to take 40 000 hectares of Mozambique. US officials said that because Cargill had agreed to include some small-holder contract farming, it would not make enough profit from the investment, so it must be subsidised from G8 aid. This could be called the Obama model.

However, the Africa Progress Panel points specifically to the very large land concessions in Mozambique, and warns that "for Africans, the benefits of large-scale land acquisitions are questionable."¹⁵⁹ The Cargill proposal collapsed, because the company could not find 40,000 ha of available land. But there have been plantation investments in Mozambique backed by European government-funded development banks.

Alternatives

A rethinking is going on, looking for different ways to involve global and national capital in more balanced approaches to African agricultural development. Contract farming may be a century old, but it has been rediscovered and, as this book shows, can play an important role in promoting Mozambican commercial farming. Three other more nuanced approaches are being promoted by donor countries: using global value chains, patient capital, and nucleus farms. All have potential, but will need to be looked at very closely.

Using global value chains

Many commodities are controlled by only a few multinational companies, such as Olam and Cargill. A few supermarket chains dominate domestic markets in South Africa, Europe and the United States, which means that buyers in Mozambique must have good links with the supermarkets. These companies have monopsony control, which means individual farmers have little negotiating power, but these vertically integrated companies provide a market which did not exist before, so Mozambican farmers and rural workers could benefit from globalisation and vertical concentration of value chains for export crops.

All the evidence from Africa indicates there are no "economies of scale" in farming and there is no reason to prefer plantations over Mozambican small and medium commercial farmers. However, there are economies of scale with respect to finance, trading and processing, and this is increasing with globalisation.

This has led to a clear division within the large trading companies. Some prefer the subcontracting model, which is used, for example, in garment manufacture, and thus support contract farming and making local commercial producers an integral part of their value chain. This would seem to have more benefit for Mozambican farmers. But other trading companies say that even if the farming itself is not profitable, they want to guarantee raw materials for the more profitable parts of the business. Therefore they want very large plantations and they treat support for peasants and contract farming as "corporate social responsibility" and just an add-on to satisfy local people and the Mozambican government. This is of less benefit to Mozambique and its farmers.

¹⁵⁸ Africa Progress Panel, *Jobs, Justice and Equity*, Africa Progress Report 2012, Geneva: Africa Progress Panel, p 8.

¹⁵⁹ *Ibid* p 41.

Patient capital

Most large plantation investments are driven by the stock market and individual investors who want instant profits and watch quarterly balance sheets. They need results quickly, which proves to be impossible and has doomed several large investments in Mozambique. Even pension funds, which once invested for the long term, now demand more rapid profits. But there are a few investors with what has been dubbed "patient capital". These are people who have a much longer time horizon, and understand that investments in Mozambique will not be profitable for 10 years or more. This comes in at least three forms. One is money from foundations, such as for MozFoods, or in a semi-developmental way, as for AgDevCo (see Chapter 5). A second is individuals who made huge amounts of money in the privatisation of Eastern Europe or in the boom before the 2009 crash, and are now investing that money in long-term productive assets, sometimes explicitly saying they are investing for their children and grandchildren. The third is a return to colonial plantations, often actually taking over colonial plantation companies and land, but with the understanding that these are very long-term investments.

Core estates

Because of all the controversy surrounding "land-grabbing" in Africa, an alternative model being promoted by donor agencies is of nucleus estates surrounded by contract farmers. This is not a new idea. Sir Alan Pim, an advisor to the British Colonial Office, in a 1946 study opposed plantations and instead proposed nucleus estates controlled by foreign investors surrounded by local contract farmers.¹⁶⁰ In the current version, the core plantation often has a processing factory.

It could be argued that a contract company could use its own farm to create a base for skills and equipment, with agronomists and mechanics, machinery, etc. Such a plantation also guarantees that the contract company suffers the same climatic and pest problems as the contract farmers. It would also provide a space for seed production, experimentation and trials of new varieties. The danger is that if the nuclear plantation provides most of the production, the contract farmers seem ever less important and are only treated as corporate social responsibility, and eventually the company drop contract farming. As was pointed out in several chapters, contract farming only works when the production of the smaller farmers is an essential part of a company's value chain; if the produce is essential then the company will want to be on good terms with its contract farmers. Perhaps the best guideline would be that production from a company's own plantation should never be more than half the total production, and the rest would have to come from contract farmers. Government could play a role here, and make this a condition of land concessions.

Can big be better?

This more nuanced approach is coming from donors and lenders, and the partnership with the aid industry is supposed to ensure that investors pay at least some attention to social responsibility projects. One example is Portucel's controversial investment in huge eucalyptus plantations in Manica and Zambézia provinces. As we noted in in chapter 5, there have been land conflicts, and there has been no debate about using good farmland to grow trees to make brown paper bags. Furthermore, the 356,000 hectares of land allocated to Portucel will create only 7 500 jobs - only one job for each 50 ha, which is many fewer than small and medium commercial farming would create. On 23 October 2013 the World Bank's International Finance announced that it has agreed to help Portucel with "community engagement" and "community development planning".¹⁶¹ But can community engagement compensate for the reduced number of jobs?

Mozambique's investment promotion agencies treat all foreign investment as an unqualified "good thing", and all promises of investment are trumpeted unquestioningly in the media. Investors promises are all reported, but there is no discussion of alternatives, and few reports when the

¹⁶⁰ Alan Pim, *Colonial agricultural production: The contribution made by native peasants and by foreign enterprise*. London: OUP, 1946, cited by Peter Gibbon, "Experiences of Plantation and Large-Scale Farming in 20th Century Africa", Copenhagen: Danish Institute for International Studies, DIIS Working Paper 2011:20 and Elena Baglioni & Peter Gibbon, "Land Grabbing, Large- and Small-scale Farming: what can evidence and policy from 20th century Africa contribute to the debate?", *Third World Quarterly*, 34(9), 2013), pp 1558-1581. Gibbon notes that Pim was one of the founders of Oxfam.

¹⁶¹ "IFC to Advise Portucel in Promoting Sustainability of Forestry Operations in Mozambique", press release, Johannesburg and Maputo: International Finance Corporation, 22 October 2013.

investment does not materialise or fails. The first item on any investor's agenda is their own profit. Mozambique has gained little from many agriculture and mining investments over the past two decades, and some of these investments have been harmful, displacing local people for little or no development gain. Many countries have learned that local benefits must be discussed, negotiated, written into the contract, and enforced.

The Africa Progress Panel warns that land acquisition in Africa has often been managed in ways that secure no benefits to the country or people: "Detailed analysis of the contracts for land acquisition helps to explain why. Leases are typically provided at very low levels of rent and extensive tax exemptions. Investors are seldom required to provide employment opportunities for local communities or to contract with smallholder farmers. The contracts are usually drawn up and negotiated behind closed doors without social and environmental assessments, consultations with affected communities or subsequent requirements for audits. There are no food-security safeguards requiring leaseholders to sell food products in local markets during periods of high food prices."¹⁶²

The Thai model, which bans foreign investment in actual farming, but promotes investment in all other areas of agribusiness, has been successful. It may not be appropriate for Mozambique, where it may not be acceptable to donors who want to encourage investments by their agribusinesses and by Mozambicans who want a share in that investment, both of whom want land. But Mozambique could be much more careful in its land concessions.¹⁶³ Any grant of more than 500 ha could require additional agreement between the company and government, with on-going monitoring by the Agriculture Ministry, and could be only for 20 years (but automatically renewable if the contract was followed).

Big is not the answer

Although the mood is changing, large foreign industrial plantations continue to have some support - particularly with a veneer of corporate social responsibility. Giant foreign investments in land-based projects have not been proving profitable for international investors or their Mozambican partners, nor have they been reducing poverty or promoting development. This is not to argue against foreign investment, but rather for a move away from land, and to other areas of agribusiness, such as trading, processing, and contract farming where global agribusinesses have an advantage.

The best results shown in this book are where the local farmers are an essential part of the value chain and not a social responsibility add-on, for example where foreign investors are deeply involved in contract farming, and where no more than half of total production is from a company's own farms. Investment should be encouraged, but not in land.

¹⁶² Africa Progress Panel, 2012, p 41.

¹⁶³ Under the Mozambican land law, land concessions are granted by governors up to 1000 ha, the agriculture minister from 1000 ha to 10 000 ha, and the Council of Ministers over 10 000 ha. A concession takes the form of a DUAT (direito de uso e aproveitamento dos terras) which can be up to 50 years, and renewable for 50 years. There seems nothing in the law to prevent shorter or conditional DUATs.

10. Learning from history

"Developing and transition economies can learn from the history of agricultural policy in today's rich countries," writes Cambridge University economic historian Ha-Joon Chang.¹⁶⁴ "Today's rich countries all grappled with issues very similar to what many of today's developing countries are struggling with." His detailed history shows that the now-rich countries all used extensive policy interventions to promote local farmers. It also shows how important it was that they learned from one another.

The story of Denmark and its neighbours at the end of the 19th century, in the first wave of globalisation, is particularly interesting. The development of the railways led to Russia exporting cheap grain to western Europe. Some countries imposed tariff barriers to protect their farmers. Denmark took another course, intervening heavily in agriculture to shift farmers up-market from growing grain to producing butter and bacon. Cheap imported grain was used to feed the pigs and cattle. "In the history of today's rich countries, the most successful case of the development of an agro-processing industry may be Denmark. In the late nineteenth century, Denmark developed very successful export-oriented butter and bacon industries by setting up co-ops that collectively established processing facilities. Co-op dairies emerged from 1882 and co-op bacon factories from 1887" reports Chang. Indeed, Denmark was a pioneer in marketing and production co-operatives, which were developed with extensive state backing. The idea spread to Sweden, Germany and the Netherlands - and later to Japan, South Korea and Taiwan. In 1913 there were 592 cooperative societies in Denmark, and all received a state subsidy

Denmark was also one of the first countries to set up export marketing boards, and these were used to raise quality standards for butter and bacon and thus to raise the value of what farmers were producing. Partly as a response to Danish competition, the Dutch government introduced butter quality control in 1889 and an export meat quality control service in 1902. Chang notes that "while marketing boards are routinely denounced by the orthodoxy, especially in sub-Saharan Africa, Denmark and some other European countries benefitted from effective export marketing boards." And "it should also be added that the Dutch and the Danish strategies worked only because there were strong public interventions."

Knowledge and education proved important. Denmark, Sweden, the Netherlands, Japan, the United States, and other countries established specialised agricultural secondary schools. Britain had the first agricultural extension services in 1843, but it was Germany that first implemented it widely with instructors who went to farms. Sweden, Denmark, the Netherlands, the United States and Japan all took up the idea of a government extension service in the late 19th and early 20th century. Chang points out that "even Chile, which was a pioneer in privatising extension services in the 1970s, has come to recognise the limits to privatised extension service, and has put in a strong state-backed extension programme, targeting medium-sized farmers."

Chang notes that countries such as Denmark "that succeeded in creating viable small holdings provided subsidised credits to small farmers." He continues: "Often the most effective way to provide subsidised agricultural credit is through specialised publicly-owned, or at least publicly-supported, banks" as well as credit cooperatives. In the late 19th century, Germany was the pioneer in this regard, followed by Norway, France, Denmark, and Sweden. Japan's farm bank in 1897 explicitly drew on advice from German experts. The United States was slower, but when it finally created rural credit systems it explicitly drew on the experiences of Germany, Sweden, and Denmark.

A world-wide problem over the past century has been huge fluctuations in prices paid from crops. Most of the now-rich countries introduced price stabilisation systems, usually involving guarantees to purchase when prices fall to a pre-set floor price. And many continue until the present day. Some countries has also introduced state subsidised farm insurance.

It is interesting that two of the countries which have presented themselves as free market paragons have intervened heavily in agriculture. The United States has used the World Trade Organization and the development banks to try to block state intervention in Africa. But in the early

¹⁶⁴ Ha-Joon Chang, "Rethinking public policy in agriculture: lessons from history, distant and recent", *The Journal of Peasant Studies*, 36(3), pp 477-515, 2009. This is the best summary of relevant agriculture policy history, and much of the next paragraphs comes from this paper. Ha-Joon Chang was the winner of the 2003 Myrdal Prize for his 2002 book *Kicking Away the Ladder*.

part of the 20th century, when US agriculture was much less developed, the US government financed irrigation, electrification, research and extension, and introduced price stabilisation schemes - some of which continue. And in supposedly free-market Chile, state marketing agencies have played the role of protecting small farmers and the state subsidises farm insurance schemes. Chang notes that "Chile has used a very effective price stabilisation scheme."

Two decades of Europe's Common Agricultural Policy

In 1945 Europe came out of the Second World War devastated and hungry. Before the war, Europe had become increasingly dependent on food imports and at the end of the war it had no money to import food and its farms could not produce enough. Self-sufficiency in food became a priority.

In 1957 six western European countries created the European Economic Community (EEC) which later became the European Union. In 1962 they agreed a Common Agricultural Policy (CAP), with four main goals: produce more to ensure food self-sufficiency, modernise farms, stabilise agricultural prices, and guarantee farmers an adequate standard of living.¹⁶⁵ There were two main policies. The first was guaranteed minimum prices, with the European Union guaranteeing to buy products at that price. The second was grants and subsidies to help farmers buy equipment, renovate farm buildings and obtain better seeds and fertiliser.

Implicit in the policy was that what were called "viable" farms would continue, while farmers and their workers on "non-viable" farms were encouraged to find non-farm jobs. The number of farms in Europe declined significantly as many people left the land and farms became larger; nevertheless in 1995 most European farms were still less than 20 ha, but the farmers earned an adequate living.¹⁶⁶

The programme was spectacularly successful, and showed how government intervention could transform agriculture in just one generation. Within two decades Europe was self-sufficient in food and was producing huge surpluses and becoming a major food exporter. In 1984 it was forced to impose production quotas and change the support systems, and there have been major changes since then, with a move to giving farmers direct cash payments instead of buying their produce at a floor price.

Mozambique's neighbours

Two of Mozambique's neighbours are experimenting with policies to support small and medium commercial farmers.

Zambia

Zambia has been hugely successful with a programme designed to support emergent farmers and increase maize production.¹⁶⁷ Zambia defines "emergent farmers" as those with 5-20 ha. The number of emergent farmers increased by 62% in the decade 2000/01 to 2010/11, from 35,000 to 56,000, while maize production doubled by 2010/11. Tables 10.1 and 10.2 summarise Zambian maize production by smallholders (defined as under 20 ha, or which 0-4.9 ha are called "small scale" and 5-20 ha are called "emergent".)

Table 10.1 shows that the big increases in maize harvests were in the larger "small scale" farmers, with 2 to 4.9 ha and the smaller emergent farmers, with 5 to 9.9 ha. Both groups more

¹⁶⁵ Robert Ackril, *Common Agricultural Policy*, Sheffield, UK: Sheffield Academic Press, 2000, and Niek Koning, "Agriculture, development and international trade: Lessons to be learned from the Common Agricultural Policy of the European Union", paper presented at Forum on Food Sovereignty, Niamey, 7-10 November 2006, Ouagadougou: Réseau des organisations paysannes et de producteurs agricoles de l'Afrique de l'ouest, http://www.roppa.info/IMG/pdf/Niek_Koning-Agriculture_development_and_international_trade-Niamey_November_2006.pdf

¹⁶⁶ Robert Ackril, p 18.

¹⁶⁷ There are two useful Zambia research projects, the Indaba Agricultural Policy Research Institute (IAPRI) and the Food Security Research Project, both linked to Michigan State University in the USA, with papers on <http://fsg.afre.msu.edu/zambia/policy.htm> and <http://fsg.afre.msu.edu/zambia/research.htm>. Data for table 9.1 comes from T.S. Jayne et al, "Mountains of Maize", Policy Synthesis 48, 2012, and other papers in the series. See also "Removing subsidies in Zambia", IRIN, 30 September 2013, <http://www.irinnews.org/report/98849/>

than doubled production. Farmers who use fertiliser all have a higher yield, typically an extra 800 kg/ha. Table 10.2 shows subsidised fertiliser is used more by farmers with more than 2 ha.

Table 10.1 Small-holder maize production in Zambia

Area cultivated - all crops	Number of farms 2010/11	% of farms	Maize production (tonnes)		% increase	Increase per farm, kg
			Mean 2005/06 to 2007/08	2010/11		
0-0.9 ha	596,334	40%	212,335	309,324	46%	157
1-1.9 ha	499,026	33%	381,293	707,438	86%	666
2-4.9 ha	354,116	24%	490,102	1,130,527	131%	2,030
5-9.9 ha	49,410	3.3%	196,848	494,719	151%	7,037
10-20 ha	6,999	0.5%	103,156	144,888	40%	6,298
TOTAL	1,505,885		1,383,735	2,786,896	101%	

Table 10.2 Fertilizer and maize in Zambia

Area cultivated - all crops	% of farmers receiving FISP fertiliser 2010/11	Maize yield kg/ha		
		Unfertilized	Fertilized	Difference
0-0.9 ha	14%	1257	2181	924
1-1.9 ha	31%	1247	1957	710
2-4.9 ha	45%	1429	2180	751
5-9.9 ha	58%	1560	2372	812
10-20 ha	53%	1725	2511	786
TOTAL	29%			

Zambia has had two programmes, which started in 2002. One is now called the Farmer Input Support Programme (FISP) and provides some free seed and some subsidised fertiliser. The fertiliser subsidy started at 50% in 2002 and rose to 79% in 2011, before being pulled back to 50% in 2013. The second programme is run by the Food Reserve Agency (FRA), which buys maize from farmers at slightly above local market price and then sells to millers at a lower price. FRA makes a loss of about \$20 (600 MT) per tonne, but one study showed that it had increased the producer price by a much larger amount, 19%. But this has also raised the price which Lusaka workers pay. The reduced price to maize millers is being removed, partly because the millers were not passing on the lower price to consumers.

The package is both expensive and profitable. The cost of the two programmes for the 2010/11 season was about \$150 mn (4,400 mn MT), but the value of the additional maize produced was \$350 mn (10,000 mn MT).

The programme is controversial because it is designed to increase maize production and thus promote the large farmers who will produce more maize. To join, a farmer must cultivate at least 1 ha of land, which largely excludes the smallest 40% of farmers. Second, a farmer must be a member of an association or cooperative, which typically costs about 100 MT, which is too

expensive for the smallest farmer. The other problem is that even a subsidised 50 kg bag of fertiliser costs 600 MT, which many small farmers cannot afford. Thus the programmes clearly promote medium and emergent farmers with 2-10 ha of land. But they do not help the poorest small farmers, who do not produce enough maize to feed their families and thus are net buyers of maize, but who are also too poor to buy fertiliser.

Zimbabwe

One of the few countries to have recently moved from large scale farming to small and medium commercial farming is Zimbabwe, which has had two land reforms, one in the 1980s and another in 2000.¹⁶⁸ In the colonial era the best half of Zimbabwe's land was defined as "white" and given to a tiny number of settlers. At independence in 1980, 5,400 white farmers held 12.5 million hectares, about 2,300 ha per farm, while 700,000 families were squeezed on to 16.4 million ha. In the first land reform about 1400 farms were each divided into 50 smaller farms and 75,000 families were resettled, each with 5-10 hectares of arable land. In 2000 most of the remaining white farms were occupied, and 145,000 families received 5-6 ha of arable land and 23,000 received larger plots. Three decades after the first land reform and a decade after the second, more than half of the 220,000 land reform farmers with the smaller plots have become small or medium commercial farmers (by the definition of chapter 3). Some now earn more than civil servants or teachers. They are proving to be as productive as the white farmers they replaced, but are much more labour intensive. More than 1 million people are now working full time on the former white farms, compared to 167,000 before the land reform.

The land reform has not had large support from the government, and the hyperinflation of 2005-8 hit farmers as well as all other Zimbabweans. But several factors seem to have made the land reform successful. First, there are some intrinsic factors. Most Zimbabweans have farming experience and agriculture is still seen as a way to make money, so some people are actually returning to the land, while others moved from tiny farms in the "communal areas" to larger land reform farms. In 2000 the land was occupied by people who wanted to farm, which means they were a self-selected and more dynamic group. Zimbabweans are well educated and can more easily adopt more modern technologies. And Zimbabweans are not as poor as Mozambicans.

Technology is available. There are private and state seed companies and research continues on new hybrid seeds; fertiliser is available. Use of cattle for ploughing is well known, and tractors are also available, so land area could be expanded.

Two state interventions are important. The state agricultural extension service Agritex is excellent and has supported the land reform farmers. The state Grain Marketing Board (GMB) sets a floor price and guarantees to buy, which makes maize a profitable crop. Most maize is sold to private traders, but at or slightly above the floor price.

Both tobacco and cotton are important contract crops, and maize production is falling while tobacco production is rising, because more profit can be made from tobacco. Except for contract farming, there is no rural credit, and many farmers are seriously undercapitalised. The successful ones save their profits each year and reinvest in the farm.

Are there any lessons?

In the late 19th century, Europe, the United States and Japan were in much the same position as Mozambique today, with most people living on farms and mainly growing food with hand tools, perhaps with horses to plough. Over a century they transformed their agriculture to be modern and productive, and to serve as a base for industrialisation. Are there any lessons for southern Africa?

Of course, a century later, the world is different - the same models will not necessarily work. And Europe, Japan and Africa all have different land and different people. But they started from roughly where Mozambique is today, and have transformed farming in ways similar to what Mozambique wants to do. Thus the main lesson is that the transformation required massive government intervention in the market, even in the United States. Special rural banks and subsidised credit, marketing boards and price stabilisation, and state technical assistance were all

¹⁶⁸ Joseph Hanlon, Jeanette Manjengwa and Teresa Smart, *Zimbabwe Takes Back its Land*, Johannesburg: Jacana, 2013.

part of the package that modernised the countryside. This is exactly opposite the advice given by the IMF, World Bank, and big donors, who are saying "do not do what made us successful".

Perhaps the other lesson is that the farmers who remain on the land are the small and medium commercial farmers; they are not the 1 ha hoe farmers or so-called "subsistence farmers".

It would be useful for the international community to look at its own history - to ask how they transformed agriculture 100 years ago and 50 years ago, and apply some of those lessons in Mozambique.



Arcanjo Tiquitoe with his two children in front of his brick house in Gurué, built with money from soya. He also has a motorcycle.

11. Backing emergent farmers to end rural poverty

"Growth in agriculture is up to 3.2 times better at reducing ... poverty in low-income and resource-rich countries than an equivalent amount of GDP expansion outside agriculture," according to a recent World Bank report.¹⁶⁹ The report goes on to stress that this is particularly true for Mozambique, because capital-intensive mining and mega-project driven growth has such a small impact on poverty. A study by the United Nations University-Wider concluded that for Mozambique "the most important priority for jobs is to address low levels of agricultural productivity in order to help reduce poverty."¹⁷⁰

"Half the population still lives below the national poverty line," notes the IMF, "while nationwide rural poverty continues to be severe."¹⁷¹ The dual agricultural strategy pursued for the past 35 years is not working. Keeping most peasants on tiny pieces of land, while making huge tracts of land available for foreign investors to create modern industrial farms is a failure. Trying to raise the productivity levels of the majority of Mozambicans farming less than 1 ha while keeping them on their 1 hectare dooms these peasants to continued poverty. On the other side of the dual strategy, nearly all the plantations fail and they create too few jobs.

The poverty of the majority of rural Mozambicans, who have a cash income of less than 700 MT per person per year, is obvious when one drives through rural Mozambique. But almost unnoticed, there is a rural revolution taking place. It is led by people such as Manuel Palusso in Angónia, Elizabeth Waziweyi in Catandica, Armando Katxava in Lioma and Jaime Agostinho in Iapala. They point to another way forward. They are emergent farmers or members of commercial farming associations - the missing middle not even noticed by the dual strategy.

They are some of the more than 68 000 Mozambicans who have become small and medium commercial farmers in the two decades since the war. They represent the dynamic face of Mozambique agriculture. These are families who are increasing productivity by adopting new technologies, but are primarily raising production by farming more land. They are creating jobs and raising production. So far they are islands of success in a sea of poverty, but they show what is possible and point a way forward.

They are very different people with different histories and different crops. They are men and women, young and old, some recent graduates from new agricultural courses and some people who worked in regular jobs for the state or private sector. But the all show initiative and a desire to make money from farming, and not just to grow food to feed their families. In this book, we have chronicled some of the successes - soya in Gurué, potatoes in Angónia, litchi in Catandica, vegetables in Vanduzi, chickens in Nampula, and many others. The statistics in Chapter 3 pointed to the key roles of tobacco, as well as cotton, beans, and cattle. Most of these farmers live well,

¹⁶⁹ Punam Chuhan Pole (Deputy Chief Economist, World Bank Africa Region) et al, *Africa's Pulse*, Vol 8, Washington: World Bank, October 2013.

¹⁷⁰ "How to promote sustainable jobs in Mozambique", *WiderAngle*, November 2013.

¹⁷¹ International Monetary Fund, "Staff report for the 2013 Article IV consultation", IMF Country Report 13/300, 2013, p 20.

with improved houses, some with motorcycles. At the top is a new rural middle class who have cars and send their children to university. This transformation has happened in just 20 years. These farmers have combined their own initiative with support from the public sector to expand their area to take advantage of new markets - or to help to create new markets.

For some, the role of the international public sector has been essential. It took a decade of continuing support from international NGOs and donors to make soya a profitable crop. This was hands-on help, providing tractors and seed and creating markets. Developing the cassava market also involved a decade of donor intervention and the development of machinery and markets. Chickens, too, had international public sector support.

The litany of problems is well known - lack of credit, inputs, markets, etc. For many of the new commercial farmers, contract farming has played an important role to fill the gaps. Initially it was tobacco, cotton and seed, but it has expanded in recent years to a range of other products including soya, oilseeds, vegetables, and chickens. And there is a new range of investors who are building their business on the basis of contract farming, and not large land holdings.

The growth of commercial farmers over the past two decades has been truly remarkable. And the growth in the last seven years, since we wrote *Do bicycles equal development in Mozambique?*, has been particularly notable. In most villages, living conditions had not changed, with poor housing and little in the markets. But revisiting places such as Chimoio and Iapala, we saw some dramatic changes. We saw some farmers earning more than civil servants and becoming a new rural middle class. In the soya, tobacco and potato farming areas, there are many more improved houses, and increasingly bicycles are being replaced by motorcycles.

The new commercial farmers are only a small percentage of Mozambican farmers, but they show what is possible. Most of these commercial farmers had help from somewhere - contract companies for tobacco, the international public sector for soya, and so on. But what is striking is the most of the support is from outside - foreign companies, international NGOs and agencies, bilateral donors. Domestic investors, banks and the government are largely absent.

The other thing we saw is that most commercial farmers are under-capitalised. They would like to expand, but do not have the money and cannot obtain credit. They lack machinery and modern inputs. There are thousands of peasant farmers with more than 1 ha who would like to grow, but are too poor to expand. Mozambique's rural areas are too poor to develop on their own. Is Mozambique to continue to depend on the outside world to develop rural areas?

Not most farmers

Mozambique's rural transformation will not be built on millions of 1 ha farm families. That is not a strategy to end poverty and develop a better livelihood. Rural development will be built on hundreds of thousands of small and medium commercial farmers who will raise production, earn a good living for themselves, and create tens of thousands of rural jobs. Ending rural poverty means supporting those farmers who want to treat farming as a small business and who want to expand. And this will only be a minority of farmers.

Most Mozambicans have not chosen to be smallholders - they were born on the farm and it is what they have known since childhood. Most would prefer to have secure jobs that pay a wage. In reality, they are self-employed business people, but that happened by default - they did not choose it and do not want it. Most Mozambicans are not entrepreneurs who want to build their farm into a profitable business; they just want to feed their family and improve their standard of living. Realistically, most farmers, or at least their children, over the next decades will try to find jobs or move to town. Rural Mozambicans are likely to follow one of four routes:

1) **Remain.** Continue farming in the same way. Many NGOs and aid agencies want to try to raise the production of these 1 ha farmers, who are too poor to buy fertiliser and other modern inputs. Despite the best intentions of the NGOs, this is unsustainable and leaves these families in poverty. Many of the children will move away from the farm.

2) **Migrate to towns or cities.** This is the main choice of children of peasants who have some education, and who try to find a job or survive in the informal sector.

3) **Rural jobs.** The preferred option for many people is a rural job, for example in processing cashew or vegetables, or in trading, or even as a farm labourer. The preference is for a secure job, even at a very low wage. Some people will accept seasonal work. Most people with rural jobs will keep their 1 ha and produce a significant part of their own food.

4) **Expand their area.** Some will be able to expand their 1 ha to 2 ha, then to 5 ha or 10 ha. These are the emergent farmers who become serious commercial farmers and earn more than they would in a salaried job. These are good farmers who want to remain in rural areas but have more prosperous lives. They want to expand their land area and earn more money by becoming more productive. They can be the emergent farmers who are the subject of this book.

In every survey and many articles in the local media, Mozambicans cite jobs as the biggest need. Emergent farmers are creating full time jobs as well as increasing the demand for *ganho-ganho* (day labour), which gives some cash to the under 1 ha peasants. In a comparison of 30 developing countries, Maros Ivanic and Will Martin of the World Bank find that "improvements in agricultural productivity benefit the poor much more than gains in other sectors" such as services and industry.¹⁷² And they find that most of the poverty reduction comes from increased unskilled wage rates. This is particularly important, because as we noted in chapter 8, rural wages and working conditions in Mozambique are not good, with *ganho-ganho* labour earning only half the minimum wage. But what happens is that as productivity and production grows, farmers have to hire more workers, leading to a labour shortage which pushes up wages.

Commercial farmers are a very varied group, but in this book, some themes come though. In the next section we point to four things that emergent farmers need to succeed, and in the following section five areas of context that help to define the position of these farmers.

Essential for commercial success

Four things are essential for the success of commercial farming: markets, machinery, credit, and risk sharing.

1) Assured markets drive agricultural growth

No one farms just for the fun of it, and no farmer will grow a crop they cannot eat or sell at a profit. Exhortations to work harder and grow more food have no value if there is no assurance that the crop can be sold at more than the cost of production. We have seen that the biggest constraint on using hybrid maize seeds and fertiliser or new varieties of rice is that the normal market price is too low. On the other hand, soya and tobacco have attracted substantial interest from farmers, because there is an assured profitable market. Neither of those crops are "free market" successes; these markets were created by the public sector. Intervention is crop specific and often location specific. For tobacco one large company has exclusive buying rights for an entire district, granted by the government. For soya there was seven years of support in Gurué by the international public sector - donors and NGOs - to create and initially ensure a market before the private sector stepped in. The fresh cassava market was created because Dutch aid supported development of the processing machine. The cashew market was because the government, through the Cashew Institute Incaju and against World Bank insistence, supported the development of the cashew processing industry in Nampula. Countrywide policies have not had a great impact, and success has come from state agencies like Incaju and NGOs like Technoerve that can act locally and experiment.

Marketing is mainly a private sector activity, but traders and agribusinesses are afraid of risk, and in most marketing successes the public sector has played a key role. With successful crops, government has intervened to reduce risk, through exclusive contracts like tobacco, protection as in sugar, building processing facilities as with cassava and cashew, or developing the market from scratch as with soya.

Experience so far is that government intervention to create the market is essential, and that Intervention is crop specific and often location specific.

2) Machinery and support to expand

Initially, the main growth of emergent farmers comes from farming more land. Family farms are usually less than 1 ha because that is the maximum a family can open with *enxadas* (hoes). To

¹⁷² Maros Ivanic and Will Martin. "Sectoral Productivity Growth and Poverty Reduction: National and Global Impacts." Paper presented at the "Sources of Growth and Poverty Reduction: The Role of Agriculture and Non-Agriculture under Structural Transformation" workshop at the World Bank, Washington, DC, 16-17 September 2013.

farm more land a farmers must have - or be able to hire - cattle for ploughing, a motor-cultivator, or a tractor. Tractors are much too expensive for most farmers, which means farmers would prefer to hire someone to plough their field with cattle or a tractor. But cattle, motor-cultivators, and tractors are not widely available. In some areas such as near Gurué, the poverty is so widespread and the need for money so great that it is possible to hire teams of people with *enxadas*. This is still common but it will not be possible in the long term, as commercial farmers increase the demand for labour.

Mechanisation is an important way to support emergent farmers and this will require a set of public private initiatives (PPIs) in which individuals are supported to set up tractor maintenance and ploughing service centres. The World Bank's 2013 study *Growing Africa* points out that Thailand subsidises tractor services, which cost only 1000 MT per hectare, half of the costs in Mozambique.¹⁷³ The public sector contribution could be long-term credit to acquire machinery; paying for training in South Africa or Zimbabwe in equipment maintenance, ploughing and business skills; and ensuring some kind of long-term monitoring, mentoring and support, perhaps with one of the tractor or motor-cultivator companies.

Some medium commercial farmers might be able to buy a tractor and provide ploughing services to neighbouring farms, but this also requires credit and an accessible maintenance facility.

Finally, cattle are used for ploughing in some places. Cattle cannot be used in lower tse-tse fly areas, but their use could be expanded in higher areas. That would require improved state veterinary services, training and possibly credit.

3) Credit

In our interviews, we found few farmers who had expanded using only their own money; nearly all used credit. A few have been able to obtain bank credit and a few have gained access to the "7 million" district development fund. Most gain credit through contract farming, and this is of growing importance. The lack of bank credit is proving a serious constraint, and high interest rates, or 25% or more per year, often make loans unprofitable. Microfinance, with interest rates of 10% per month, is useful for traders but not for farmers who can only pay for the loan for fertiliser six months later.

The new commercial farmers have money which they are depositing in banks. There are still too few rural banks, but the network is expanding. Ulongué has four banks, and there are ATM machines in some commercial farming areas. The big commercial banks seem happy to take money from the farmers, but they are less enthusiastic about lending to them.

Ha-Joon Chang, cited in the previous chapter, found in his study of successful countries that "even though subsidised credit does *not* guarantee agricultural success, agricultural success without it is impossible to achieve."¹⁷⁴ Because the risk is too great for private companies, rural credit almost always involves governments. Specialist farm banks are common. Alternatives are to support co-operatives and other forms of group borrowing, and to assist in the credit side of contract farming.

4) Risk reduction

Farming is always risky, especially in Mozambique, where it is largely dependent on rain. Too much rain, or too little, or at the wrong time can destroy the crop. Insects or birds can wipe out the crop. The 1 ha farmer is conservative, using the techniques of her parents and grandparents to minimise risk, and if the crop is lost, only the family labour is lost. A commercial farmer spends money - often borrowed - on seeds, fertiliser, and machinery hire and often uses crop varieties which are much more productive but may be more sensitive to weather. Thus the commercial farmer is taking much higher risks in the hope of higher profits.

Many small farmers with little money are unwilling to take those risks and so do not expand to become small commercial farmers. Risk reduction is an important component of encouraging emergent farmers. This can be done in several ways. With contract farming, the contract company can assume the weather and pest risk, and say that in the event of crop failure that loans do not

¹⁷³ World Bank, *Growing Africa: Unlocking the Potential of Agribusiness*, Washington: World Bank, 2013, p 38.

¹⁷⁴ Ha-Joon Chang, "Rethinking public policy in agriculture: lessons from history, distant and recent", *The Journal of Peasant Studies*, 36(3), 2009, p496.

have to be repaid. The government can encourage this by providing a form of insurance and sharing the risk with the contract company. Government can also help by doing disaster monitoring and making formal statements that in certain areas there was pest damage or insufficient rain.

Risk can also be reduced through irrigation designed to fill gaps in the rainfall (which also increases production at relatively low cost), which can also require long-term credit for electricity connections. By increasing its own pest and disease monitoring and control, government can stop the spread of crop damage, which also reduces risk. So does setting minimum prices and guaranteeing to buy at that price.

Although there have been several experiments in various countries with risk insurance, so far it has been too expensive when provided by the private sector and thus is not taken up by either farmers or contract companies. This is exactly where government can have a role. Rather than a formal and expensive insurance system, government can say that in event of disaster, it will compensate for part or all of the loss.

In context

In writing this book, we were often surprised and forced to recognise some unexpected things about the context in which small and medium commercial farmers operate. These are five of our surprises.

1) *There is already a land conflict*

It is widely claimed that there are millions of hectares of underused farmland and thus vast amounts of land available both for smaller Mozambican farmers and big plantation investors. This turns out not to be true. There is already conflict over good farmland in Gurué, Manica province and elsewhere. If a significant number of Mozambican farmers expanded to 10 ha or 20 ha, they would take all the underused land, and there would be none left for foreign investors. Thus, each new foreign-owned plantation is taking land away from Mozambican emergent farmers.

2) *Commercial farmers are SMEs*

Small and medium commercial farms are small or medium enterprises (SMEs). SMEs are recognised as playing a particularly important role in job creation and economic development. Treating them as businesses as well as farms represents an important change in mentality. If commercial farms received the special support often given to SMEs in other sectors, including special credit facilities and training and other assistance from business centres, they could grow faster. Such SME support is often government or NGO sponsored.

Contract farming can be seen in this context. Many small businesses are run as franchises, in which a larger company - for a fee - provides a product and a range of support. For commercial farmers, contract farming is the equivalent of a franchise. The contract company provides inputs and support on credit and guarantees to buy - resolving problems of many commercial farmers. The farmer must sell to the contract company and pay a fee for services as well as repaying the credit. There is a power imbalance, with the contract companies having more power than the farmer. Contract farmers, like other SMEs, need help to reduce the power imbalance, which usually involves some kind of regulation of contracts. For example, contracts could be required to specify a fair sharing of risk and to define how conflicts are settled, preferably through national mediation or arbitration.

3) *The international public sector clears the way*

In its 2013 Letter of Intent to the IMF, the government of Mozambique could find only one success in increasing agricultural productivity, namely soya beans.¹⁷⁵ As we noted in Chapter 4, soya has been unique in Mozambique because of the way it was built up over 10 years by the international public sector - NGOs and donors - and only when it was successful was it taken up by contract farming companies. It is also notable because it has been an important crop for new small and medium commercial farmers.

¹⁷⁵ Manuel Chang and Ernesto Gove, Letter of Intent, 7 June 2013, Attachment 1 - Memorandum of Economic and Financial Policies, included as part of International Monetary Fund, "Staff report for the 2013 Article IV consultation", IMF Country Report 13/300, 2013, p 40.

Two key lessons come from this. First, is the importance of the international public sector in developing soya as a commercial crop. This was long-term support and it was practical, getting-boots-dirty support - providing seeds, tractors, credit, markets, and technical assistance. Private investors were only interested after the public sector had proven that the crop could be profitably grown and marketed. Second, soya is only appropriate to Gurué, parts of Niassa, Angónia, and parts of Manica where the soils, rainfall and temperatures are right. NGOs and donors were prepared to invest over seven years to experiment with a specific crop in a particular place, and be patient enough to make it successful.

4) Food grains are different

Despite its potential agricultural richness, Mozambique still imports food. Government wants to increase domestic food production and create food self-sufficiency, which is not possible with current policies. Although there are some commercial maize farmers, neither rice nor maize is profitable enough to be produced commercially in large quantities, so too much of the market is dependent on 1 ha farmers selling a few tins-full of maize or rice to earn a little bit of money.

Maize, rice and other staple food crops are different and less suitable for contract farming, first because they are widely traded, which makes side-selling too easy, and second because the government wants to keep the prices low to keep down the urban cost of living. The local price of maize is below the import price and below the cost of commercial production, while the price of imported rice is below the cost of production.

Thus neither the free market, nor contract farming, will make Mozambique self-sufficient in grain if prices are to be kept low. No amount of exhortations from the President will push people to grow more of an unprofitable crop. Many countries have faced this problem, and there is a variety of solutions. India and Zambia have a model that involves buying maize at a higher price and then selling it to millers or poorer people at a lower price, and accepting that the price difference is a subsidy to growers and consumers.

5) Agriculture never succeeds without state involvement

A 2007 study for the World Bank praised Mozambique's "good example of little public sector intervention" in agriculture.¹⁷⁶ But it then went on to point to the "very low farm productivity levels for nearly every crop" - apparently without recognising the link.

For two decades the international financial agencies and donors have said that the private sector will solve all problems, if only the government simply removes regulations in order to "make it easier to do business". As we showed in Chapter 10, this is exactly opposite to what the now-developed countries did - and continue to do - themselves. Throughout the world, commercial farming has grown only when promoted by government support. And "little public sector intervention" is not what business wants. Commercial farmers and agribusinesses are private companies, and farming is too risky for the private sector on its own, so they want protection. In agriculture the private sector wants the public sector to create the markets and develop the crops, provide subsidised credit and often other subsidies, share the risks, and provide public goods such as research and pest control.

The private sector demands public sector intervention in the market - exactly the opposite of the advice of the past two decades.

Chickens and beer

The link between agriculture growth and poverty reduction is clear and agricultural growth is "substantially more pro-poor than non-agricultural growth," writes Derek Headey of the International Food Policy Research Institute (IFPRI).¹⁷⁷ He is repeating a message of many experts. The riots and the most vocal young protesters are urban, but if government wants to reduce the poverty of the majority of Mozambicans - and perhaps most importantly, the majority of Mozambican voters - it must promote agricultural growth. But the past strategies promoting the

¹⁷⁶ Pedro Arlindo, "Mozambique Country Case Study", background paper for the Competitive Commercial Agriculture in Africa Study, Washington: World Bank, 2007.

¹⁷⁷ Derek D. Headey. "Revisiting the contribution of agriculture to global poverty reduction: An agnostic approach, Washington: International Food Policy Research Institute (IFPRI), 2013.

huge and the tiny have not worked. Big plantations run by international agribusiness are failing across Africa and few will succeed in Mozambique. Trying to raise the productivity level of peasants on tiny 1 ha farms requires them to make investments and take risks which they find unacceptable and the transformation will not take place, dooming the 1 ha farmers to continued poverty or urban migration.

In this book we call for a focus on the SMEs, the small and medium commercial farmers, and that group of 1 ha farmers who want to be 2 ha farmers and then emergent farmers. These are the people prepared to take risks and adopt new technologies. Jobs remain the biggest expressed need in rural areas, and jobs are being created by these emergent farmers and by processing of their crops. The soya farmers on their motorcycles in Lioma may not seem special to officials from Maputo, but to local people in Gurué they have become a model showing what is possible - educated young people do not have to migrate to the city to earn a good living, but can do it from farming. The leap from 1 ha of semi-subsistence to 5 ha of tobacco or 10 ha of soya or producing pigs commercially can drive a rural transformation, and 68,000 families have made that leap in the past 20 years. And there are a growing number of associations and cooperatives which can also be described as commercial farmers.

Undoubtedly, the biggest surprise in writing this book was to discover the large number of small and medium commercial farmers. And also to discover their initiative, ambition, and diversity. There is no "typical" commercial farmer, because each is making imaginative use of local resources and building on the local land, market, crop and contact farming opportunities. The 68,000 commercial farmers are a large group compared to 10 or 20 years ago, but it is still small as a proportion of all Mozambican farmers. But with support, it could be increased five- or even ten-fold. In another decade, hundreds of thousands of Mozambicans could be farming 5-20 ha, creating jobs, and transforming the rural economy.

The history of Thailand, Japan, Denmark, the United States, and other countries all show that agriculture is different from other economic sectors, and that large-scale government support is essential to creating a thriving emergent farming sector. Those stories also show that each country followed a different path, building on its own history, politics and natural resources. Another key point is that these were not short projects or three-year interventions. Instead, it took one or two decades to develop a vibrant commercial farming sector, which we also see in Mozambique. One of the most useful things that bilateral donors could do in Mozambique is to tell the real stories of how their farming sectors were developed through support and subsidy. History and experience matter - in developing farming, the now wealthy countries all learned from each other and adapted the experience of others to local conditions.

Chickens and beer is a recipe for Mozambique because they demonstrate the public and private sectors supporting each other to promote agricultural growth. Soya to feed the chickens, the chickens themselves, and cassava to make Impala beer are all contract farming crops being produced by emergent farmers and now being promoted by private companies, but they all needed years of public sector support before they became interesting for the private sector. Mozambique's agricultural potential is huge and Mozambican emergent farmers show that there are tens of thousands of farmers who can exploit that potential - if they are helped.

It is time to support Mozambicans to farm the land - not as peasant farmers, but as commercial farmers who will transform the countryside.

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Acronyms and abbreviations

- ABC: Agência Brasileira de Cooperação, Brazilian Cooperation Agency
ACA: African Century Agriculture
ACDI/VOCA: Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance
APAC: Associação de Promoção da Agricultura Comercial
APP: Africa Progress Panel
CACM: Centro de Arbitragem Comercial, Conciliação e Mediação; Commercial Arbitration, Conciliation, and Mediation Centre.
CAIA: Companhia Agro-Industrial de Angónia (old state farm)
CAP: European Common Agricultural Policy
CAPEL: Complexo Agropecuário de Lioma (old state farm)
CLUSA: Cooperative League of the USA, now National Cooperative Business Association
COMAL: Comissão de Mediação e Arbitragem Laboral; Labour Mediation and Arbitration Commission
CTA: Confederação das Associações Económicas de Moçambique; Mozambique Economic Associations Federation
CVM: Cruz Vermelha de Moçambique; Red Cross
DADTCO: Dutch Agricultural Development and Trading Company
DNPDR: Direcção Nacional de Promoção do Desenvolvimento Rural; National Directorate to Promote Rural Development
DUAT: Direito do uso e aproveitamento de terra; right to use land (land title)
ECA: Empresa de Comercialização Agrícola
EU: European Union
FAO: UN Food and Agriculture Organization
FDC: Fundação para o Desenvolvimento da Comunidade
FDD: Fundo de Desenvolvimento Distrital; District Development Fund (known as the "7 million", "os 7 milhões")
FGV: Fundação Getúlio Vargas
FISP: Farmer Input Support Programme, Zambia
FOB: Free on Board
FRA: Food Reserve Agency, Zambia
G8: Group of the 8 most industrialised countries
GMB: Grain Marketing Board, Zimbabwe
GMO: Genetically Modified Organism
ha: Hectare (100 m by 100 m, 2.5 acres)
IAI: Inquérito Agrícola Integrado (2012)
ICM: Instituto de Cereais de Moçambique
IFC: International Finance Corporation, part of the World Bank
IFIs: international finance institutions
IFPRI: International Food Policy Research Institute
IGEPE: Instituto de Gestão de Participações do Estado (body that holds Mozambican state shareholdings in companies)
IIAM: Instituto de Investigação Agrária de Moçambique; Mozambique Agricultural Research Institute
IITA: International Institute of Tropical Agriculture
ILO: International Labour Organisation
IMF: International Monetary Fund
Incaju: Instituto de Fomento do Cajú; Cashew Promotion Institute
JICA: Japanese International Cooperation Agency
kg: Kilogramme
MinAg: Ministério da Agricultura; Ministry of Agriculture
MLT: Mozambique Leaf Tobacco
MT: Meticals
NGO: Non-government Organisation

NH: Novos Horizontes
 OPV: Open pollinated varieties
 ORAM: Organização Rural de Ajuda Mútua; Rural Mutual Aid Organisation
 PEDSA : Plano Estratégico de Desenvolvimento do Sector Agrário; Strategic Plan for
 Development of the Agricultural Sector
 PICA: Plano Integrado da Comercialização Agrícola; Integrated Plan for Rural Marketing
 PLAAS : Institute for Poverty, Land and Agrarian Studies, Cape Town, South Africa
 PPOSC-N : Plataforma Provincial da Sociedade Civil de Nampula; Nampula Civil Society
 Coalition
 Pró-Parcerias: Projecto de Parcerias entre Comunidades Locais e Investidores
 Prodecer: Programa de Cooperação Nipo-Brasileira para o Desenvolvimento dos
 Cerrados
 ProSavana: Programa de Cooperação Tripartida para o Desenvolvimento Agrícola da
 Savana Tropical em Moçambique; Tripartite Cooperation Programme for Agricultural Development
 of Mozambique's Tropical Savannah
 SAFEX: South African Futures Exchange
 SEC: United States Securities and Exchange Commission
 SEMOC: Sementes de Moçambique Ltda.
 SIMA: Sistema de Informação de Mercados Agrícolas
 SME: Small or medium enterprise
 SOAS: School of Oriental and African Studies
 t: Tonne
 TIA : Trabalho de Inquérito Agrícola (2008)
 UN: United Nations
 UNCTAD: United Nations Conference on Trade and Development
 USA: United States of America
 USAID: US Agency for International Development
 USD: United States dollar, \$
 WFP: World Food Programme (part of FAO)
 WTO: World Trade Organization