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Small-scale farmers, large-scale commercial agriculture, agriculture, land acquisitions, rural development, Mozambique



## Policy pointers

**Small- and medium-scale farm models** outperform large-scale operations in terms of monetary return, food security, employment generation, local prosperity and avoiding land conflicts.

**Large-scale operations** are failing local development aims and need much better oversight and transparency.

**Large-scale land investments** are not inevitable, and the Mozambican government must enhance other opportunities by allocating land and improving conditions for small- and medium-scale farmers.

**Supplying technology, finance and extension services** is challenging, yet soya production in Central Mozambique shows how agricultural advice and support can successfully foster the small- and medium-scale commercial farming sector. Even a small increase in Mozambique's budget for agricultural development (or some re-prioritisation) would generate substantial leeway for policy interventions in this sector.

## Small-scale soya farming can outperform large-scale agricultural investments

Agriculture is an important engine for economic growth in Africa, but effective agricultural strategies to support rural development and poverty alleviation are scarce. State investment in the small-scale farming sector is minimal and the entrepreneurial family farm sector remains under-represented. Meanwhile, large-scale land investments are advocated as means to bring capital to rural areas and stimulate development. However, the investigation of soya production in Central Mozambique presented here suggests small-scale farming can produce similar profits to large-scale operations and better social outcomes. Concentrating only on large-scale investments can mean forgoing opportunities for rural development and poverty reduction. With the right support, poorer households can develop market-oriented farming that contributes to local value chains at many levels.

Mozambique has huge farming potential (36 million hectares of arable land);<sup>1</sup> yet poverty remains deeply rooted in underdeveloped agriculture. Much-needed capital is being attracted via large-scale land investments, but these agricultural production models are increasingly questioned by international scholars and civil society. Mozambique is one of the countries most targeted by foreign investors for agricultural land acquisitions, with approximately 7 million ha given to these investors.<sup>2</sup> Abundant land is often considered a rationale for land investments, but Mozambique's prime agricultural land is actually highly concentrated in the central and northern regions, and associated with relatively high population densities.

### Assessing soya

Soya provides a particularly interesting case study. Between 2000 and 2010, Mozambique's

soya farmers rose in number by 44 per cent and the area under soya increased by 35 per cent.<sup>3</sup> Of this land, 82 per cent is cultivated by small-scale farmers integrating soybean production into their largely subsistence agricultural activities, 3 per cent by medium-scale farmers who have emerged from smaller-scale household-based production, and 15 per cent by large-scale commercial operations.<sup>4</sup>

This briefing<sup>5</sup> compares these three 'production models' among ten villages in Gurue district, Zambezia province (a soya production hotspot). We collected data through focus group discussions with small- and medium-scale soya producers; semi-structured interviews with large-scale commercial operations, village leaders, NGOs, traders and district officers; and a household survey with 44 per cent of households in the ten villages.

## *Emergent and small-scale farmers face constraints that limit their profitability*

Roughly a quarter of interviewed households produced soya on fields averaging 1.1ha. These small-scale farmers did not use modern inputs and tilled their land manually. They reported that in a year with good rainfall, this gives yields of 0.75–1.25 tonnes/ha.

Many wanted to expand their soya production, but while land was no constraint, seed supply, acquiring modern agricultural inputs and getting machinery (and

having land suitable for using machines) were big challenges.

The emergent medium-scale farmers were a small group of farmers (we interviewed 14 out of 30) and had received substantial support from NGOs in recent years. They all used microbial inoculants (to help legumes fix nitrogen), certified seeds and machinery for field preparation and maintenance. They had an average land holding of 25ha. In years with good rainfall, farmers reported soya yields reach 1.8–2.25 tonnes/ha.

We also interviewed staff at Gurue's three large-scale soya farms. Combined, these had 5,050ha under production and 14,500ha with an official land title. Their current yields averaged 1.5–2.0 tonnes/ha. They used inputs such as certified seeds, herbicides, fertilizer, insecticides, inoculants and machinery for soil preparation and crop maintenance. Most of their inputs were sourced from Zimbabwe or Brazil.

### Comparable returns

Profitability, of course, is highly sensitive to yields and prices. For small-scale farmers, both are a challenge (Figure 1). Without agricultural inputs, yields remain below their potential. Meanwhile,

selling small quantities to informal buyers makes farmers especially vulnerable to fluctuating prices. Nevertheless, small-scale and emergent farmers can attain margins of 5–13.5 and 6–14 Mozambican metical/kg, respectively<sup>6</sup> (household labour costs are not accounted for in this estimate). By comparison, the commercial farms were still in their investment and expansion phases, naming high costs for land clearing and for importation of equipment, and low production levels as main reasons. One commercial interviewee anticipated reaching a breakeven point with a yield of 2.5 tonnes/ha and a price of 21 metical/kg, (in 2015, a year of low yields and high prices due to heavy flooding, prices were 14–19 metical/kg). This suggests that emergent farmers can attain the same or higher incomes per hectare of soya grown as large-scale operations. We are avoiding call this 'profit' in recognition of two factors: household labour costs are not included, and emergent and small-scale farmers face land and other constraints that limit their profitability. It is also important to note that for farmers to achieve such returns they must be able to undertake crop maintenance. This in turn requires functioning credit systems for farmers.

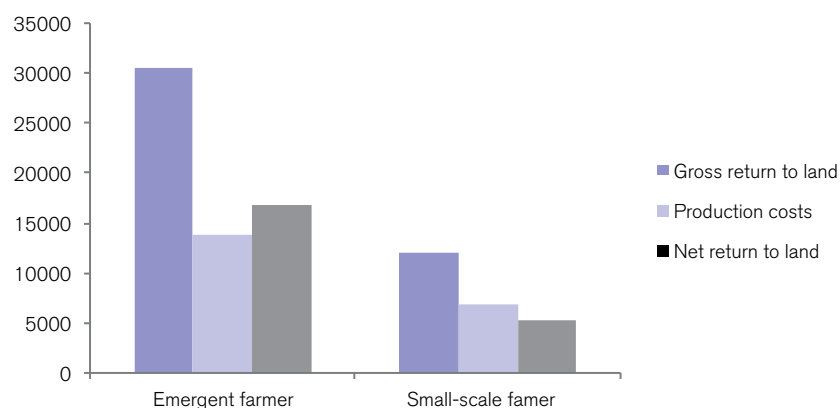
### Food security

Soya cultivation did not appear to replace or threaten subsistence crop production. Farmers prefer clearing new land for soya and maintaining diverse cash and subsistence crops. They usually grow soya in rotation with maize and other crops, and unanimously stated this improved soil fertility and boosted maize yields. Own survey data supported this statement, showing 40 per cent higher maize yields for soya producing households.

### Employment

Of the surveyed households, 38 per cent were involved in soya cultivation. Female-headed and illiterate households participated the least in soya farming. Poor households provided seasonal labour; richer households were mainly producing or trading soya, or had regular employment in one of the commercial operations. Overall, emergent and small-scale farmers spent the most on labour per hectare. Fifteen per cent of small-scale soya producers hired seasonal labour (known locally as *ganho-ganho* work). Nine per cent of interviewed households were getting income from this employment, gaining seasonal incomes of 683–1,406 metical per worker. The emergent farmers had their own machinery but recruited seasonal labour for weeding and harvesting. By contrast, commercial operations were fully mechanised and employed very few permanent or seasonal workers per hectare under

**Figure 1. Costs and profits for Mozambique's small-scale and emergent soya farmers**



cultivation. Wages on commercial farms were slightly above the government-set minimum of 3,298 metical/month. Managers emphasised efforts to introduce social insurance and pension funds for permanent staff, but only two per cent of the surveyed households had such a permanent job, earning 19,301–53,815 metical/year. A further two per cent of households had seasonal employment from the commercial operators, earning 885–9,975 metical/year.

### Local prosperity

All households reported better quality of life compared with Mozambique's early post-conflict years, giving access to markets as a prime reason. They reported increasing field size as a first requirement for moving from 'very poor' to 'poor', and year-round food supply and cash crop cultivation as steps to move from 'poor' to 'better-off'. Larger-scale production with cash crops was seen as a route from 'better-off' to 'rich'.

Social divisions (and income inequalities) were developing. Soya-producing households were more likely to have household heads who had attended school and were less likely to have a female head of household. Moreover, more soya producers had received agricultural advice than non-producers. Households growing soya cultivated more land and had higher farm and off-farm income than non-producing households. More of them had improved housing (58 versus 35 per cent) and owned more than one personal asset such as a radio, mobile phone or bicycle (86 versus 57 per cent).

Small-scale and emergent farmers were creating soya-related income opportunities along the local value chain, as well as direct employment. Emergent farmers, for example, hired out tractor services and distributed soya seed.

In contrast, commercial operations largely functioned independently from local structures. They imported equipment and agricultural inputs from other countries, paid taxes nationally, and commercialised soya outside the local value chain. Within land loss compensation strategies, commercial operators had negotiated local investments with communities. Investments started in 2010 and each investor had realised one or more of their promises (examples were purchasing, maintaining and fueling an ambulance, establishing a health post and supplying medicines, drilling boreholes, supplying seeds and extension services, or renting-out tractors). However, none could give us quantitative figures on their social investments, nor on how this related to their other business statistics. Corporate social responsibility remains voluntary and its investments rather arbitrary.

Meanwhile, local farmers said no community near large-scale operations had benefited overall, and all interviewees could relate at least one perceived injustice, such as lost access to land (discussed in more detail below). Box 1 discusses measures to address such challenges.

### Land conflicts

Land is increasingly recognised as a source of capital, yet over 99 per cent of the interviewed households held only customary land rights and no official land title. Households reported land conflicts amongst locals, immigrants and commercial operations. Most had experienced boundary and land expropriation conflicts with neighbours. Some reported conflicts with one of the commercial operations over expropriation and compensation.

All commercial farm managers we interviewed emphasised that their companies had taken all steps required by Mozambican Land Law, including community consultation, before receiving an official land title. However, conflicts with the local population had not been avoided (Table 1), particularly where suitable farmland is scarce. We found community expectations were high because most people envisioned former state farms with high labour requirements (and so employment opportunities). Households that gave up land in the expectation of better living conditions felt betrayed. Mistrust towards the

#### Box 1. Ensuring commercial-scale farming brings better development

Commercial-scale farming doesn't always deserve its bad name as 'land grabbing', but it does need better oversight to improve its development performance:

- Local populations need improved capacity to engage in land negotiations during the consultation processes and institutional support from government and non-government institutions to enable adequate information sharing and inclusive decision making when land is allocated to investors
- The government of Mozambique needs to establish strong regulations, guidance and compliance control for commercial scale farming
- Farm operators must do more to comply with good land management practices, such as using water more efficiently, managing soils to boost fertility and using less agrochemicals
- Farm businesses should invest more in mitigating the social impacts of large-scale farming and in community development
- Strengthened District Councils should also be used as local multi-stakeholder platforms to regularly monitor agreements and deal with emerging issues
- Farms should ensure they operate transparently across their entire operational setup in order to regain local and international credibility.

**Table 1. Summary of how well each production model offers profits, food security, employment and prosperity, and how it affects land conflicts**

Impacts	Production model		
	Small-scale farmer	Emergent farmer	Commercial operation
Monetary return	Medium	High	Poor
Food security	High	High	Medium
Employment generation	Medium	Medium	Poor
Local prosperity	High	High	Poor
Land conflicts	Medium	Medium	Poor

commercial operations was apparent, and farmers blamed a lack of information about procedures, feared change, and reported feeling powerless. Meanwhile, commercial operation managers said communication with local people had been a constant learning process and many measures were required to minimise misunderstandings. Frequently, modern practices clashed with traditional ones. For example, traditional hunting of rats using fire conflicts with modern zero tillage methods; the practice of women and children collecting remnant soya after the main harvest puts them at risk from heavy machinery; and growing maize at the borders of soya fields conflicted with spraying pesticides. Such conflicts require various measures, including strict protection for the plantations. Although compensation for lost yields may also be available, overall most farmers perceived the measures as interfering with their freedom and restricting access to land they previously used.

### Messages for policymakers

This study showed small- and medium-scale farmer models can outperform large-scale operations in terms of monetary return, food security, employment generation, local prosperity and land conflicts. We did not find justification for any general condemnation of large-scale land

investments as 'land grabbers', yet large-scale operations do appear to fail local development aims: they need much better oversight and transparency (see Box 1).

Importantly, large-scale land investments are not inevitable, and the Mozambican government must seriously examine the opportunities to improve conditions for small- and medium-scale farmers so as to achieve more inclusive rural development.

Supplying technology, finance and locally adapted extension services are all challenging, yet soya production in Central Mozambique presents a good example of how agricultural advice and support – here provided by various donors and NGOs – can successfully foster the small- and medium-scale commercial farming sector. In Mozambique, national budget spending on agriculture remains well below the ten per cent target formulated in the Comprehensive Africa Agriculture Development Program. Any increase in that budget, or some re-prioritisation, would generate substantial leeway for policy interventions in the small-scale farming sector.

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### Notes

<sup>1</sup> GoM (2010) Strategic plan for agricultural development PEDSA 2010-2019. Ministry of Agriculture, Maputo. / <sup>2</sup> Anseeuw, W *et al.* (2012) Transnational land deals for agriculture in the Global South. Analytical Report based on the Land Matrix Database. ILC, CDE, CIRAD, GIGA, GIZ. / <sup>3</sup> Pereira, L (2014) Inovação e Produção de Soja Responsável em Moçambique - Resultados e Desafios. At: 9ª Conferência Internacional Sobre Soja Responsável, Foz do Iguaçu, Brazil, 1–8 May. / <sup>4</sup> INE (2011) Censo Agro-Pecuário CAP 2009-2010: Resultados preliminares - Moçambique. Maputo, Mozambique. / <sup>5</sup> This briefing is part of the Abrupt Changes in Ecosystem Services and Wellbeing in Mozambique (ACES) programme, a three-year research project implemented jointly by the University of Edinburgh, Mozambique's Eduardo Mondlane University, IIED, the University of Zimbabwe and Sweden's Lund University Centre for Sustainable Studies. <https://miomboaces.wordpress.com> / <sup>6</sup> New Mozambican metical. At the time of this study (1 October 2015), the official exchange rate between the metical and the US dollar was 42.05 ([www.oanda.com/lang/de/currency/converter](http://www.oanda.com/lang/de/currency/converter)).