



STUDY



What are the effects of large-scale land acquisitions in Africa on selected economic and social indicators?

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Using the labour-intensive planting hole method (zaï), farmers in Burkina Faso convert completely degraded land back into arable land.

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Key Messages

The study reviewed scientific literature on the microeconomic and social effects of large-scale land acquisitions in Sub-Saharan Africa.

Microeconomic indicators

- **Operation of land deals:** roughly half of the deals concluded are operational (54% of 399 deals), but only 11% of the area under contract in these deals are being farmed (Land Matrix dataset from July 2019). Land and water speculation explains part of this phenomenon. Further reasons for low realisation by investors include a lack of prior reliable information on the production potential of the acquired land, border conflicts with neighbouring LSLA farms or smallholders, difficulties with the import of production inputs, investors' capital restrictions, and insecurity about the long-term validity of the land deal.
- **Food production:** a large proportion of crops produced on LSLA farms is for non-food purposes. Thus, the shift from smallholder farms to LSLAs often results in an effective loss of food production relative to the food-non-food production ratios of smallholder farms. Claims that LSLAs are a means to improve food security in the host countries should therefore be taken with caution.
- **Yields:** despite the common argument that LSLA farms could help to close the yield gap, the evidence available does not support the assumption that LSLA farms are generally able to obtain higher yields per area than smallholder farms even though they usually apply higher amounts of external inputs. Some studies even showed that under the same agro-ecological conditions, larger farms generally achieve lower productivity per hectare than smaller farms.
- **Productivity:** smallholders commonly achieve high yields per hectare due to highly labour-intensive production and crop diversification. In contrast, large farms achieve higher capital and labour efficiency at the cost of lower yields per hectare. Smallholder farms achieve high technical efficiency (when all input factors are taken into account).



Photo: J. Bothling/MISEREOR

Seeding of hybrid maize on 20.000 hectare Malanje Black Stone Farm in Angola

- **Labour intensity:** most LSLA farms can be expected to have between 0.1 and 1 employee per hectare depending on the crop. In contrast, smallholder farms are consistently reported to work with labour intensities of more than 1 worker/ha (up to 3.77 workers/ha). Moreover, under smallholder conditions, the risk of facing unemployment is rather low.

Social Indicators

- **Access to land:** the loss of access to land and natural resources is found to be the most important negative effect of LSLAs on local people. Legal provisions to protect the customary land rights of small-scale farmers or pastoralists tend to be ineffective due to widespread deficiencies in implementation and enforcement of the respective laws. Free, prior, informed consent is lacking. Customary land is often permanently converted, leading to definitive land loss for small-scale farmers, pastoralists, and local communities including common land.
- **Loss of commons:** LSLAs target commons or so-called public land to a significant degree. Poor and marginalised groups (such as pastoralists, indigenous people, women, and immigrants) are often disproportionately affected by the loss of commons, because of their greater dependence on communal assets.
- **Land loss** has a severe negative impact on livelihoods leading to a loss of agricultural production and thus reduced food security and reduction of productive assets such as livestock undermining the rural households' resilience to crises. While social differentiation is common among rural households, a case study in Ethiopia found that the incidence of food insecurity among household affected by LSLAs was higher compared to non-affected households (32% versus 12% of households).
- **Conflicts** seem to be more likely and more pronounced with regard to the appropriation of commons. Conflicts seem to increase if LSLAs reinforce existing inequalities within local communities and also between and within socio-ethnic groups.
- **Discharge of labour:** in a study modelling LSLA impacts in five African countries, a net employment effect of between -22 and -74% from the acquired land was calculated. According to this study, the discharge of labour is, therefore, high in the immediate vicinity of the LSLA, but comparably small in relation to total national employment in agriculture.
- **Employment creation:** although employment creation clearly benefits some, its scope, its merely seasonal character (2–5 months of employment per year), and its low remuneration are mostly insufficient to compensate for the loss of livelihoods from small-scale farming. As most employment is created in the labour-intensive establishment phase of the farm, long-term benefits are projected to be rather low. Depending on the specific set-up, employment creation by LSLA farms enlarges social divides in rural societies and might also create social dynamics between locals and migrants.
- **Outgrower schemes and contract farming** related to LSLA farms tend to be positively assessed for creating access to cash-crop markets, loans and “modern” farm technology. The only comparative study, however, between outgrowers and independent small-scale tobacco farmers did not find any difference in net-incomes between the two. However, compared to independent farming, outgrower schemes and contract farming create dependencies on partner farms and organisations that may lead to higher risks in terms of property rights and cash flows.
- **Infrastructure creation** clearly benefits locals. However, the extent to which communities benefit can vary considerably depending on location and the type of infrastructure created. There are reports that investors understand the creation of infrastructure and social services as a replacement for lost livelihoods. This leads to negative follow-up effects as the local population does not receive any effective compensation for lost livelihoods. Furthermore, in some cases, infrastructure creation is promised but not undertaken.
- **Spillovers of agricultural knowledge** and technology are observed, but to a lesser extent than expected. They are more likely if labour-intensive methods are used and less likely in case of mechanised crop cultivation. The co-existence of LSLAs and small-scale farms cultivating the same crop may result in synergies or competition on product markets.

Foreword



Photo: MISEREOR

➤ Since over 60 years MISEREOR supports small scale farming. Often MISEREOR gets asked, whether this is an outdated model and if small scale farming is a system which leads into the future in the south. This study shall add a contribution to this discussion.

Land is a key resource for human beings, not only materially, as a resource for growing food and generating income. Land is also home, representing cultural and spiritual values. For 40% of the world's population, land is livelihood.

Throughout the world, economic, social, and geopolitical changes in recent decades have brought about profound transformations in the use of land and natural resources. Politicians and investors view the large-scale production of cash crops as an important development opportunity for the agricultural sector. Accordingly, policy and investment choices have led to a massive increase in cash crops.

The number of land transactions has increased, and many countries are subject to an ongoing process of land concentration in the hands of national elites and international investors, at the expense of peasants

and pastoralists, especially in Sub-Saharan Africa, which is the world's most targeted region for large-scale land acquisitions.

The reasons put forward by the proponents of large-scale agriculture's supremacy are manifold. Large-scale agriculture is seen as the only way to "modernise" and "develop" the land, to close the yield gap, and to ensure food availability. Furthermore, socio-economic outcomes are assumed to be higher under the management of large-scale farming operations than on small scale farms.

The study assesses the effects of large-scale land acquisitions on selected economic and social indicators in Africa to show whether this narrative is plausible or not. ◀



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1 Introduction

➤ **Demand for agricultural commodities is increasing and will continue to increase for at least a few more decades due to continuing population growth, an increase in the consumption of meat and other animal products by the emerging middle classes in developing countries, and growing demand for renewable energy from agricultural sources. Producing agricultural commodities requires fertile land, the availability of which is, however, globally limited. Accordingly, the increasing demand for fertile land in combination with a globally limited resource base will result in the increasing scarcity of agricultural land** (Voget-Kleschin 2013).

In the Global South, the demand for fertile land has resulted in international investors making large-scale land acquisitions (LSLAs).¹ Africa is by far the most targeted continent in this respect. According to the Land Matrix, 37% of the global number of deals and 34% of the globally acquired land for agricultural purposes is located in Africa.²

Proponents of LSLAs argue that in the underdeveloped agrarian sector in countries of the Global South, investments are urgently needed to close yield gaps and satisfy the demand for agricultural commodities. They hold that these countries have low population densities coupled with an important reservoir of non-forested, unprotected, and currently non-cultivated land, which makes this land suitable for rain-fed cultivation. They do acknowledge that although ‘[v]ery little, if any, of this land will be free of existing claims [...] at such low levels of population density, voluntary land transfers that make everybody better off are possible.’ (Deininger et al. 2011: 78–79). Proponents therefore frame LSLA as a development opportunity.

By contrast, NGOs, the media, and critical scientists argue that LSLAs typically replace smallholder agriculture, resulting in negative social consequences (D’Odorico et al. 2017).³ This is particularly relevant for Sub-Saharan Africa (SSA), where small farms account for the majority of agricultural production. Thus, according to Herrero et al. (2017)⁴ farms smaller than

2 ha account for approx. 25% of the production and farms between 2 and 20 ha for another 50%. Similarly, Samberg et al. (2016)⁵ estimate that in SSA, small and very small farms up to 5 ha produce approx. half of the food calories in the region, with medium farm sizes (5–15 ha) accounting for another 26%.

Furthermore, critics view LSLAs as resulting in the intensification of agricultural practices, i.e. to the intensive use of external inputs such as fertilisers, pesticides, and intensive mechanisation and therefore link it to negative environmental consequences (Voget-Kleschin 2013; D’Odorico et al. 2017).

The aim of this report is to review the existing knowledge on the microeconomic and social effects of LSLAs in SSA by comparing them with data from small-scale farming. To ensure that the reviewed knowledge is based on factual evidence, the report focuses mainly on studies that report primary data and meet scientific standards, i.e. on studies with a thorough documentation of data collection and analysis and neutral, traceable presentation of evidence.

1 For an explanation of the term “large-scale land acquisitions” and why it was used in this report, see chapter 3.2.

2 Data retrieved on 05/09/2019 from <https://landmatrix.org/data/by-target-region/>.

3 For the juxtaposition of “land grab” and “development opportunity”, see Cotula et al. (2009).

4 Herrero et al. (2017, e35) estimate these numbers based on ‘existing, spatially explicit global datasets of location and production of major crops, livestock, and aquacultural products’. Relative contributions of five farm size classes (< 2 ha, > 2–20 ha, > 20–50 ha, > 50–200 ha, > 200 ha) are estimated for nine crop and livestock product classes (vegetables, sugar crops, roots and tubers, pulses, oil crops, livestock, fruit, fibre, and cereals).

5 Samberg et al. (2016) use household census data combined with MODIS remote sensing data and FAO figures for crop and pastureland to estimate the calorie production for 41 crops and livestock in 44 countries in Sub-Saharan Africa, South and East Asia, and Latin America for five farm size classes (means < 2 ha, 2–5 ha, 5–15 ha, 15–50 ha, >50 ha) and extensive grazing (>15 ha, > 90% pasture). Data was compared with FAO census data.

This report focuses on two main topics: (1) comparative evidence on the microeconomic results of smallholder farms vs. LSLA farms and (2) the social effects of LSLAs on affected smallholders, i.e. the effects on local livelihoods, the rural economy, and land rights. It focuses on the following questions in particular:

(1) Microeconomic questions that compare smallholder agriculture and LSLA farms:

- What are the characteristics of farms in terms of input factors (land, capital, labour) and production technologies? (Chapter 4.1.1)
- What products (food crops, non-food crops, flex crops, multiple-use crops) are produced and which yields are obtained? (Chapter 4.1.2)
- Where and how are products marketed and how large is the share of subsistence production? (Chapter 4.1.3)
- Which results are documented for farm economic indicators (revenue, variable and fixed costs, profit, profitability, productivity)? (Chapter 4.1.4)

(2) Social questions

- How is labour remunerated and what working conditions prevail on LSLA farms? (Chapter 4.1.1)
- What effects do LSLA farms have on the local economy, especially regarding the discharge of labour? (Chapter 4.2.1–4.2.6)
- What effects of LSLAs on food prices and food security in the target countries/regions are documented? (Chapter 4.2.1–4.2.6)
- Which effects do LSLAs have on the land rights (i.e. to access, withdrawal, management, and alienation) of the local population, especially regarding commons? (Chapter 4.3)

The chapter numbers given in brackets indicate the part of the report where evidence is given in answer to the question.

The report is structured as follows: chapters 2 and 3 outline the literature review methods and preliminary considerations regarding the terminology of LSLAs and smallholder farms. Chapter 4 includes results, with chapter 4.1 focusing on microeconomic questions, 4.2 on the social effects of LSLAs, and 4.3 on land rights, especially relating to commons. Chapter 5 concludes and presents key findings.

Figure 7 at the end of this report (Chapter 5), provides an overview of the topics covered in this report including the relations between different aspects. The chapters that follow contain repeated references to the letters and numbers associated with boxes or linkages in this figure. In short, a full explanation of Figure 7 is provided throughout the report. ◀



2

Methodology

➤ **Between March and July 2019, a literature search of scientific databases (Web of Science and Google Scholar) was conducted. We used the keywords large-scale land acquisitions, land grab, land grabbing, or foreign direct investment combined with effects, economic*, costs, benefits, productivity, or food security, livelihoods, land rights, commons in different combinations using the link word AND. The results were manually screened for relevance for this study based on title and abstract. Additional references were obtained while reading the literature from the first literature search using the snowball principle.**

Further references beyond the LSLA literature, e.g. on-farm economic, development, and commons topics, were obtained through searches in Web of Science and Google Scholar using appropriate keywords or based on the previous knowledge of the authors.

References were loaded into the reference management programme Citavi 6 and assigned to suitable subtopics of the review based on the abstract. Reading and analysis were performed by the two co-authors of this report with focus on specific subtopics.

In addition, the authors supplemented the results from the literature search by drawing on the Land Matrix dataset. The independent initiative behind the Land Matrix dataset, the Land Matrix Initiative, is an international partnership of research organisations and regional, land-focused organisations (Giger et al. 2019).⁶

To be included in the Land Matrix dataset, cases need to meet the following criteria (<https://landmatrix.org/faq/>, see also Anseeuw et al. 2013: 1; Nolte et al. 2016: 3, Giger et al. 2019: 260):

- ‘Entail a transfer of rights to use, control or ownership of land through sale, lease or concession;
- Have been initiated since the year 2000;
- Cover an area of 200 hectares or more;
- Imply the potential conversion of land from small-holder production, local community use or important ecosystem service provision to commercial use.’

In some cases, regional and national criteria may differ from the global set if agreed to by the organisation(s) coordinating it, for example, the amount of area covered. This definition of LSLAs was also used as a basis for the analysis of LSLA farms in this report (chapter 3.2).

To illustrate their analysis in the results part, the authors used a dataset from the Land Matrix database for Africa, downloaded on 9 July 2019. Deals for the five North-African states – Egypt, Tunisia, Algeria, Libya, and Morocco – were excluded. The dataset therefore comprises data for SSA only. Furthermore, mining deals, deals for land measuring less than 200 ha, and all deals concluded before the year 2000 were excluded in order to fit the definition of LSLAs as used in this report. The resulting dataset comprises 1,037 deals from 38 countries with a total land area of 38.5 m. ha. Of the deals in our dataset, 733 with a total size of 18.4 m. ha were concluded with a signed contract, 181 are intended, i.e. the contracts are under negotiation, and in 120 cases, the negotiations failed or the contract was never signed. Throughout the report, the authors repeatedly draw on this dataset to back up their arguments. ◀

⁶ The Land Matrix collects and shares information about LSLAs in low- and middle-income countries, providing this information in the form of an online open access platform (<https://landmatrix.org/>). The Land Matrix contains information from scientific studies, media, governments, the private sector, and NGOs. To date, it is the most comprehensive database on LSLAs in the Global South (Giger et al. 2019: 259). Meanwhile, its operators acknowledge that the ‘information is often incomplete and partly derives from secondary sources’ (ibid.) and that it is subject to potential biases (Nolte et al. 2016) but argue that ‘it nonetheless provides an overview of patterns and trends characterising the recent wave of land appropriation’ (Giger et al. 2019: 259). On the evolution of the Land Matrix dataset, see Anseeuw et al. (2013). For a critique of the comprehensiveness of its information, see Cotula et al. (2014).



3

Terminology

➤ **The first part of the literature review seeks to analyse literature that compares smallholder farms and LSLA farms from a microeconomic perspective. As a basis for the analysis, definitions and characterisations of both LSLA farms and smallholder farms are provided. This also provides background information that helps put economic indicators into perspective.**

In the context of the literature on LSLAs, comparative studies explicitly focusing on microeconomic questions are scarce. While studies on the smallholder production system are available, microeconomic data on LSLA farms in Africa is hard to obtain. For this reason, a microeconomic analysis using counterfactuals based on the available literature on LSLAs is not possible.

The authors suspect that the lack of data on LSLA farms is partly due to the unwillingness of LSLA farms

to support detailed data collection by researchers for fear of negative reports. Mann and Bonamoni (2017) stress the exceptional case of a Swiss LSLA farm in Sierra Leone that is particularly open to the presence of researchers and actively strives to improve its impact on the local population.⁷

To overcome the lack of data and prevent biased data collection, several studies work with national or regional datasets collected for other purposes (e.g. Deininger and Xia 2016; Cotula et al. 2014; Schoneveld 2014). However, while large and small farms can certainly be contrasted, it is questionable whether all large farms included in the dataset fit the definition of LSLAs.

Due to the limited amount of economic studies fitting the specific definition of LSLAs, the authors also drew on literature beyond the LSLA context in chapter 4.1.



3.1 Definition and conceptualisation of smallholder farms

➤ Smallholder farms dominate the agrarian sector in SSA and in developing countries in general (Rapsomanikis 2015). While definitions of smallholders

differ, they are mainly characterised by a focus on household labour and limited resource endowments, especially capital, compared with other farms (Rapsomanikis 2015).



Smallholder farming in Karamoja, Kotido province, Uganda

⁷ Mann and Bonamoni (2017: 43) argue that '[the] reason why there are comparatively many studies on the Addax case is that the company's communication strategy is quite different from that of most other investors. Market access to the EU biofuel market is increasingly depending on compliance with sustainability standards, so that only suppliers considered as "sustainable" will have a long-term chance of remaining in the market. Therefore, Addax is interested in actively promoting the impression of a sustainable project and therefore is trying to collaborate with a considerable number of independent scientists, many of whom produced the literature cited below.' We see this as an indication of our assertion that most LSLA operators are unwilling to support detailed data collection by researchers for fear of negative reports. The study by Mann and Bonamoni focuses on explicit and implicit normative judgements on LSLAs, more specifically on the implications of utilitarian versus deontological evaluations of the phenomenon. In so far as this focus differs radically from the focus of this report, we do not draw on Mann and Bonamoni's work in the remainder of the report.

manikis 2015). A further central feature of smallholder farms is the integration of farming and livestock keeping, except for truly pastoral regions (Giller et al. 2011). Livestock is used to produce milk and meat, store and reproduce capital,⁸ and often for draught power. Predominantly, a considerable share of crop and livestock production is used for subsistence, while another share is sold to generate cash.

To characterise smallholder farms by size, a threshold of 2 hectares is typically used. The definition may, however, vary according to the prevailing farming system and environmental conditions. In a global assessment of smallholder farms, Rapsomanikis (2015) defines smallholder farms as having a smaller land area than the median sized farm in the respective country.⁹ Lowder et al. (2016) define small farms or smallholdings as having a land area of less than 1–2 ha. Based on data from agricultural censuses of nine SSA countries, they estimate that 70–80% of farms in SSA are smaller than 2 ha and operate about 30–40% of farmland in these countries.

Smallholder farms are characterised by a strong connection between the farm and the household. Rural households often combine farming and livestock-keeping with other activities, i.e. the use of non-timber forest products and other income sources, such as salaried work (in the agricultural sector or beyond), handicrafts, trading activities, or remittances, a phenomenon known as income diversification (Ellis 1988; Ellis 1998). Generally, there is a large spectrum of different types of smallholder farms, characterised by varying degrees of wealth, diverse combinations of subsistence and commercial farming and other income activities, respectively (Giller et al. 2011, Matus et al. 2013). Furthermore, agricultural production systems vary widely according to agro-ecological zoning and crops, covering monoculture, intercropping, and multi-storey agro-forestry systems and working with varying amounts of external inputs (Chikowo et al. 2014).

Moreover, multiple relations between the different activities of the household may exist, i.e. labour is allocated to different activities depending on the season, cash needs, risk considerations, and capital accumulation goals of the household members (Ellis 2000). Thus, a change in one activity, such as a loss

of agricultural land to LSLAs, might have multiple consequences on the household's other activities.



Dairyfarming/livestock-farming in Tombolo, Nahouri province in Burkina Faso

While smallholders have to answer similar agricultural production questions as commercial farms (e.g. what to plant? Where to plant? When to harvest?), their production goals and constraints are often fundamentally different. Commercial farms aim to maximise profit, often by means of specialisation (Figure 7, Box (b)). Smallholders, by contrast, above all strive to ensure the livelihood of the household (Figure 7, (Box (c))). Constraints such as variable and high-risk climatic environments, unstable political conditions, the absence of credit markets, and imperfect labour markets also strongly alter decision logic and make decision modelling more complicated (Ellis 1998; Rapsomanikis 2015). For poor households under subsistence conditions, food security (Figure 7, Box (y)) is a main concern. Accordingly, they aim to produce a minimum amount of food each year, even if this does not equal

⁸ Livestock is used to store and (re)produce capital at the same time. In the absence of banking systems, heads of livestock represent a means of storing financial capital as they can easily be bought and sold. On the other hand, by its ability to reproduce and generate products such as milk, wool, and draught power, livestock functions as productive capital. On the valuation of livestock in subsistence and smallholder systems see Behnke (1985).

⁹ By way of example, this threshold amounts to 1.2 ha for Kenya, 1.8 ha for Ethiopia, and 2.2 ha for Tanzania.

the most profitable combination of crops. Thus, smallholders mostly diversify their crop production based partly on considerations of subsistence production (such as seasonality of crops, minimising the risk of crop loss) and partly on prospects for crop sale (Figure 7, Box (d)). In contrast, aspiring profit maximisation and specialisation with high external input use is mostly not compatible with smallholders' production goals and constraints respectively.

Thus, while it is possible to describe parts of the production system of smallholders with microeconomic tools, modelling and analysing smallholder decisions requires a greater number of different assumptions than those that are used for the economic modelling

of standard commercial farms (Baumgartner et al. 2015). To assess the logic of smallholder farms, scholars often use the Sustainable Livelihoods Framework (SLF). The SLF distinguishes different livelihood assets, i.e. human, physical, financial, natural, and social capitals. The capitals are combined in livelihood strategies and result in livelihood outcomes (DFID 2001). 'A livelihood encompasses income, both cash and in kind, as well as the social institutions (kin, family, compound, village and so on), gender relations, and property rights required to support and to sustain a given standard of living' (Ellis 1998: 4). The SLF is often referred to when assessing the effects of LSLAs on local smallholders (e.g. Fielding et al. 2016; Hufe and Heuermann 2017; Oberlack et al. 2016).¹⁰ ◀



3.2 Definition and conceptualisation of LSLA farms

► The understanding of LSLA used in this report draws on the criteria for LSLAs used by the Land Matrix database (chapter 2).

Firstly, the establishment of LSLAs entails a transfer of property rights (Figure 7, Box (a)), i.e. rights to use, control, or ownership of land. Such a transfer can entail different acquisition mechanisms. Thus, in a review of 56 case studies, Dell'Angelo et al. (2017: 4) find that in the majority of cases (54%) the acquisition involved government leases, followed by 'broader government and titling policies' (29%), and direct and indirect purchase (21%).¹¹ Leases are often characterised by a long duration. By way of example, German et al. (2013) report durations of (up to) 50 years in Ghana and Mozambique and (up to) 99 years in Tanzania and Zambia.

Secondly, land acquisitions are only termed LSLAs if they were initiated after the year 2000. This criterion reflects the fact that the shift from small-scale farming to commercial use, the existence of large farms, or the acquisition of large tracts of lands are by no means new phenomena (Alden Wily 2012; Cotula 2013). Indeed, large commercial farms have existed in SSA since colonial times and continued to exist after independence. Deininger and Byerlee (2012) draw on examples of large-scale sesame and sorghum production in Sudan and mechanised wheat production

in Tanzania and Niger originating in the 1970s. However, there has been a sharp increase in foreign land acquisitions by governments and firms since around 2006–2008 related to a distinct set of drivers (see e.g. Voget-Kleschin 2013) and a distinct scale, pace, and character of acquisitions that combine to bring about major shifts in power and production in the global political economy (e.g. Margulis et al. 2013).

Thirdly, the definition requires that LSLAs cover an area of 200 ha or more. While most LSLA farms comprise much more land, some papers use their own definitions. By way of example, drawing on a national dataset from Mozambique, Deininger and Xia (2016) use the definition of >100 ha land or more than 50 ha permanent and annual crops to estimate spillover effects from large to small farms.

¹⁰ In view of the fact that this report focuses on the economic perspective of LSLAs and smallholders, the SLF is not used to structure further analysis. Nevertheless, the studies using this framework provide important information that is used in this study.

¹¹ As the authors note, their analysis is framed in such a way that 'the same case may fit into more than one category, so that the reported percentages do not necessarily sum to 100% for a given variable.' (Dell'Angelo et al. 2017: 9)

Finally, LSLAs imply the potential conversion of land from smallholder production, local community use, or important ecosystem service provision to commercial use. By way of example, in reviewing 56 case studies, Dell'Angelo et al. (2017) find the following production systems prior to LSLAs: small-scale farming (63%), pastoralism (21%), and the use of other ecosystem services including timber (21%) (see footnote 13). According to the definition used by the Land Matrix database, LSLAs may potentially aim for diverse purposes, such as agriculture, logging, timber plantations and forestry, livestock, conservation, carbon sequestration and REDD+, industry, mining, oil/gas extraction, and tourism. However, the present review focuses on LSLAs that seek to produce agricultural commodities, excluding livestock.

The criteria mentioned above already include the assumption that farms that emerge on LSLA land are usually commercially oriented. The presence of an investor implies that LSLA farms face less capital constraints than smallholder households. Thus, in comparison with smallholder farming, LSLAs are generally capital intensive, i.e. work with high input of machinery and external inputs (Figure 7, Box (e)), but are less labour intensive (Deininger and Byerlee 2012) (Figure 7, Box (f)). Farms are mainly managed by employed, trained specialists and can be mainly characterised as profit-oriented. Thus, their decision logics are mainly compatible with standard farm economics considerations. Meanwhile, similar to smallholder farms, they are also influenced by conditions in the target countries such as insecure tenure rights, difficult market access, and underdeveloped infrastructure.

Proponents of LSLA often argue that the inflow of capital and knowledge involved in the increase of LSLAs would contribute to global food security (Figure 7, Box (y)) and enhance the development of the stagnating agricultural sectors in developing countries in several ways (Chakrabarti and Da Silva 2012):

- (1) LSLAs can help to develop land that is currently idle, putting it to productive use and consequently increasing total food production.¹²
- (2) The inflow of capital, technology, and state-of-the-art agricultural knowledge involved in LSLA farming can close the yield gap (i.e. the difference

between actual and potential yields, caused by the capital constraints of smallholder agriculture (Deininger et al. 2011; Figure 6, Box (l), chapter 4.1.2).

- (3) Spillover effects from LSLA farms to adjacent smallholder farms might contribute to the development of the agricultural sector (Deininger and Xia 2016; Figure 7, Box (g), Figure 6, Box (ll), chapter 4.2.5).
- (4) With higher labour productivity, positive effects can be initiated for the whole economy of the target country (Figure 7, Box (v)). Labour can be put to productive use by employment generation (Figure 7, Box (p), (u)), thus raising the overall wage level and contributing to the transformation of African economies in general.

Throughout this report, evidence as to whether and to what extent the expected benefits of LSLA actually materialise will be reviewed (see references to specific chapters above). ◀

¹² See also chapter 4.3.1 on how this argument plays out for LSLA host country governments.



4

Results

➤ **The following chapters include firstly a microeconomic comparison of smallholder and LSLA production systems (chapter 4.1), and secondly an analysis of the social consequences of LSLA farming operations (chapter 4.2).**

To compensate for the unfeasibility of an analysis of LSLA farms and their smallholder farm counterfactuals (chapter 3), we integrate literature beyond the LSLA context that focuses exclusively on smallholder agriculture (e.g. Rapsomanikis 2015; Matus et al. 2013) or stems from the development literature and compares smallholder and large farms (e.g. Deininger and Xia 2016, 2017). In this literature, large farms do not necessarily fit the definition of LSLA farms. Nevertheless, these studies provide insights that are relevant to the LSLA discussion. In particular, large farms that have existed for longer periods can provide information on large farms' long-term performance that is not yet available for LSLAs (Deininger and Xia 2017). Thus, discussing LSLAs from a microeconom-

ic perspective also relates to existing long-term debates in agrarian literature about small vs. large and family vs. capitalist farming respectively (Oya 2013). Therefore, where suitable, this report draws on selected parts of this literature. It is, however, beyond the scope of this report to review the complete body of literature on small vs. large and family vs. capitalist farming in detail.

Furthermore, where scattered or anecdotal evidence for findings is available in LSLA literature, it is also mentioned.

As the literature search did not yield any methodologically sound comparisons of LSLA farms and their smallholder farm counterfactuals, we partly resort to combining data from different sources (especially in chapter 4.1). Since data was collected using different methodologies, a full comparison is not always possible. Figures should, therefore, be interpreted with care. ◀



4.1 Microeconomic questions

4.1.1

Production factors and production technology

In this chapter, evidence on the use of the production factors land, capital, and labour on smallholder and LSLA farms is reviewed. In addition, labour remuneration, input use, and business models of LSLA farms are analysed.

Land

Farm size is a major indicator when distinguishing smallholder farms from commercial LSLA operations. The size of smallholder farms varies according to agro-ecological conditions and can range from less than 1 ha in humid areas to up to 10 ha or 10 head of livestock in semi-arid areas (Dixon et al. 2004). Often, a threshold of < 2 ha farm size is used to characterise smallholders (Rapsomanikis 2015). Rapsomanikis



Photo: J. Bothling/MISEREOR

Small scale farmer in Sussundenga, Mozambique

(2015), drawing on data from nine countries, defines smallholders as having less land than the median farm size in the country.

By the definition used in this report, LSLA farms comprise more than 200 ha of land, but can also comprise mega farms with more than 10,000 ha. Based upon the notion that land is idle, investors plan to develop large tracts of land. However, it is repeatedly reported that the government often grants less land in concessions than originally applied for by the investor. A dataset from regional governments in western Ethiopia on 176 requested and concluded land deals revealed that on average, 34.1% of the demand were met (Baumgartner et al. 2015). The mean size of the land deals amounted to 737 ha. Similar facts were reported by Teklemariam et al. (2016) for a neighbouring region in western Ethiopia. Moreover, Nolte et al. (2016: 13) report on three case studies from Cameroon, Ethiopia, and Zambia, where investors were forced to scale down their projects by target countries. The evidence illustrates that, in some cases, target countries examine the potential viability of the project and its consequences or react to local criticism and protests.

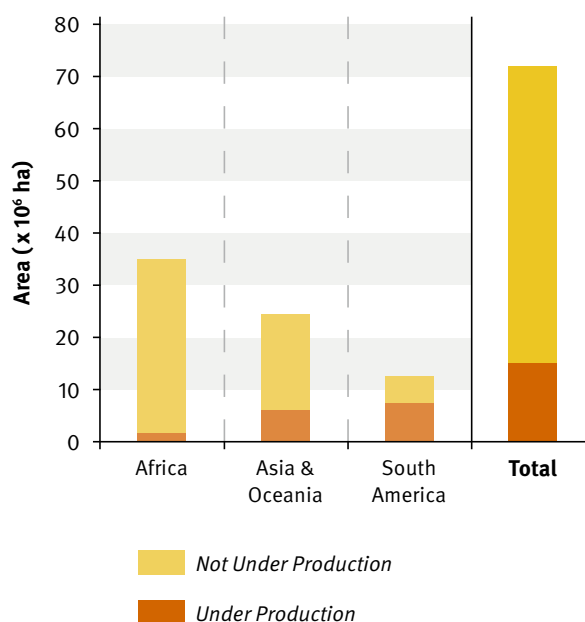
Often only a part of the acquired land is cultivated by the investor. According to data of the Land Matrix from 2017, only 20% of the acquired land are actually used globally (D’Odorico et al. 2017; Figure 2). In the dataset retrieved from the Land Matrix database for this report, 54% of the concluded deals are in operation, i.e. production has actually begun (total 399 deals), but only 11% of the area under contract in these deals are actually farmed. Of the 80 deals in the start-up phase, less than 1% of the area under contract are in operation.

Case study evidence reports similar facts (Baumgartner et al. 2015; Vaeth 2013; Shete and Rutten 2015). For example, Shete and Rutten (2015: 290) write:

Against the expectations of the Ethiopian government about the contributions of large-scale farming on local economic development and contrary to the ambition of Karuturi to turn the challenges of farming in the Ethiopian context towards opportunities of earning profit, the investments of Karuturi have been poorly managed and only a small proportion of the land acquired has been developed so far.

Figure 1
Area acquired and under production based on the Land Matrix dataset 2017

(D’Odorico et al. 2017)



Vaeth (2013: 8) describes the failure in their case as follows: ‘[...] expansions of oil palm plantations within the Okumaning concession were very limited. Hence, large land tracts remained fallow and attracted more migrant farmers over the years’.

Based on a survey of 89 LSLA farms in western Ethiopia, Teklemariam et al. (2016) list several reasons for the small fraction of land in use from the perspective of investors: lack of prior reliable information on the production potential of the acquired land, border conflicts with neighbouring LSLA farms or smallholders, difficulties with the import of production inputs, investors’ capital restrictions, and insecurity about the long-term validity of the land deal. Also land and water speculation by investors might contribute to this phenomenon (D’Odorico et al. 2017; Nolte et al. 2016; Lay and Nolte 2018).

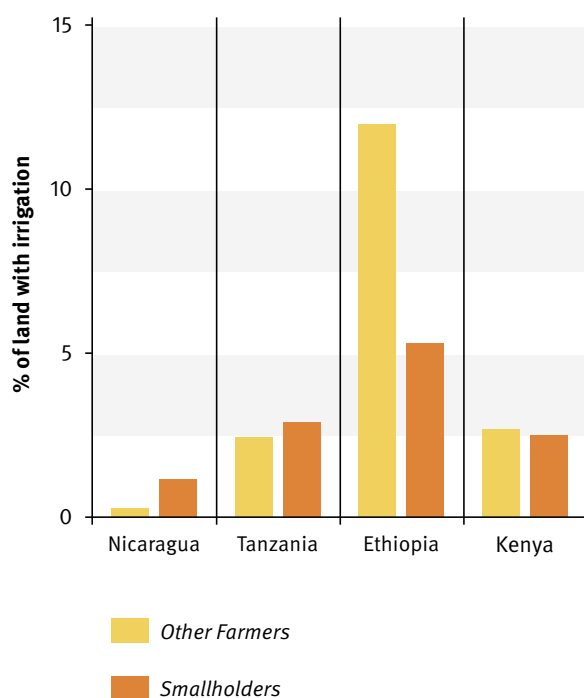
Two thirds of SSA is covered by savannah ecosystems, where rainfall is seasonal, varies annually, and features intra-seasonal interruptions. Consequently, water management is fundamental to successful agriculture. Woodhouse (2012) reports that indigenous farming systems feature a variety of water manage-

ment techniques, including but not limited to so-called informal irrigation, e.g. through stream diversion into irrigation furrows, drainage of wetlands, or planting crops following a receding flood. In the case of LSLAs, certain crops such as sugar cane and rice require irrigation in all but the most humid zones of SSA (ibid). For other crops, access to irrigation allows for higher yields and the generation of year-round employment. Hence, Woodhouse argues, LSLAs will require irrigation water, even where this is not specified in land deals. Similarly, other authors note that in water-scarce SSA in particular, investors seek more to secure rights to irrigation water than rights to land (known as grabbing of “blue water”, Bues and Theesfeld 2012).¹³ This is why core areas with good access to water are acquired by investors, making the remaining land in the vicinity without water access unusable by smallholders.

For his SSA case studies (excluding Tanzania), Rapsomanikis (2015: 18) shows that the proportion of smallholders with access to irrigation is smaller than with larger farms (Figure 2).

Figure 2
Percentage of land with irrigation on smallholder and other farms

(Rapsomanikis 2015: 18)¹⁴



Capital

The availability of capital is an important feature that distinguishes smallholders and LSLA farms. LSLA farms generally have better access to capital and are consequently able to work with higher mechanisation levels (Figure 7, Box (e)). Deininger et al. (2011: 39) provide figures on the projected investment for LSLA farms based on a global dataset, ranging from US\$ 450/ha for grains to US\$ 15,500/ha for sugar cane production with large differences depending on the crop (Table 1). The figures indicate the high capital intensity of mechanised production.

However, the level of mechanisation also strongly depends on the crop grown. While field crops such as grains and soybean can easily be mechanised, plantation fruits in particular – such as oil palm or jatropha – have less mechanisation potential (Deininger et al. 2011; Figure 7, Box (h)).

In contrast, capital availability is a major constraint for smallholder farms.¹⁵ Capital inputs in farming activities are generally low. However, there is a strong variation between countries. Adjognon et al. (2018:

13 While the term “green water” applies to the rainwater use by crops, “blue water” refers to irrigation water from rivers, lakes, and aquifers (Rulli and D’Odonico 2013).

14 Rapsomanikis (2015) draws on household survey data for each country (Sample size: Nicaragua: 2,836 households, Tanzania: 1,795, Ethiopia: 1,394, and Kenya: 6,901) and defines smallholder farms as having less than a median sized farm (thresholds: Nicaragua: 35.2 ha, Tanzania: 2.20 ha, Ethiopia: 1.8 ha, and Kenya: 1.20 ha). “Other farms” are all farms larger than the median size. Depicted is the share of land with irrigation of smallholder and other farms. Irrigation is not explicitly defined, so the extent to which irrigation as used by Rapsomanikis (2015) covers what Woodhouse (2012) distinguishes as formal and informal irrigation respectively is unclear.

15 It has been argued that a strengthening of smallholders’ property rights to land would improve their access to capital as they could use land as a collateral. In contrast, Schutter (2011: 271) argues that [...] where private lenders have extended credit to small farmers based on grants of title, they have done so at terms highly unfavourable to smallholders, or have simply ignored smallholders in favour of commercial farmers [...]. In addition, poor farming households in fact often appear reluctant to mortgage their land in order to gain access to credit, because land is for them a lifeline: an essential social safety net where none other is available [...].

Table 1

Projected labour intensity and capital investments of LSLA farms worldwide

(Deininger et al. 2011: 39)

Commodity	Jobs per 1,000 ha	Investment US\$/ha	Investment US\$/job
Grains	10	450	45,000
Jatropha	420	1,000	2,400
Oil palm	350	4,000	11,400
Forestry	20	7,000	360,000
Rubber	420	1,500	3,600
Sorghum	53	900	17,000
Soybean	18	3,600	200,000
Sugar cane-ethanol ^a	153	5,150	33,600
Sugar cane-ethanol ^b	150	15,500	105,000
Sugar cane-ethanol ^c	700	14,000	20,000
Wheat-soybean	16	6,000	375,000

30) report that in Nigeria and Malawi, more than 70% of farmers purchase inputs,¹⁶ while in Uganda and Tanzania, the share is less than 20%. In many cases, livestock and basic agricultural tools – such as a plough – may represent the major capital investment of smallholder farms (Giller et al. 2011). This is partly related to the lack of credit markets as ‘low use of credit applies in all countries and for all crops and farm sizes’, regardless of whether the farms produce food crops or cash crops (Adjognon et al. 2018: 29). However, among farmers with access to credit (mostly informal sources), fertiliser purchases seem to be more common than among farmers without access to credits (Adjognon et al. 2018). Capital endowments strongly determine the use of mechanisation. While LSLA farms typically work with high mechanisation levels (Figure 7, Box (e)), Rapsomanikis (2015:18) shows that the share of smallholders with access to mechanisation is only a fraction of the same indicator for larger farms (data for Ethiopia and Kenya in SSA). Based on data from six African countries (Ethiopia, Malawi, Niger, Nigeria, Tanzania, and Uganda), Shea-

han and Barrett (2018: 88) confirm this by stating that ‘around 1 percent of households across all countries [claim] to own a tractor’.

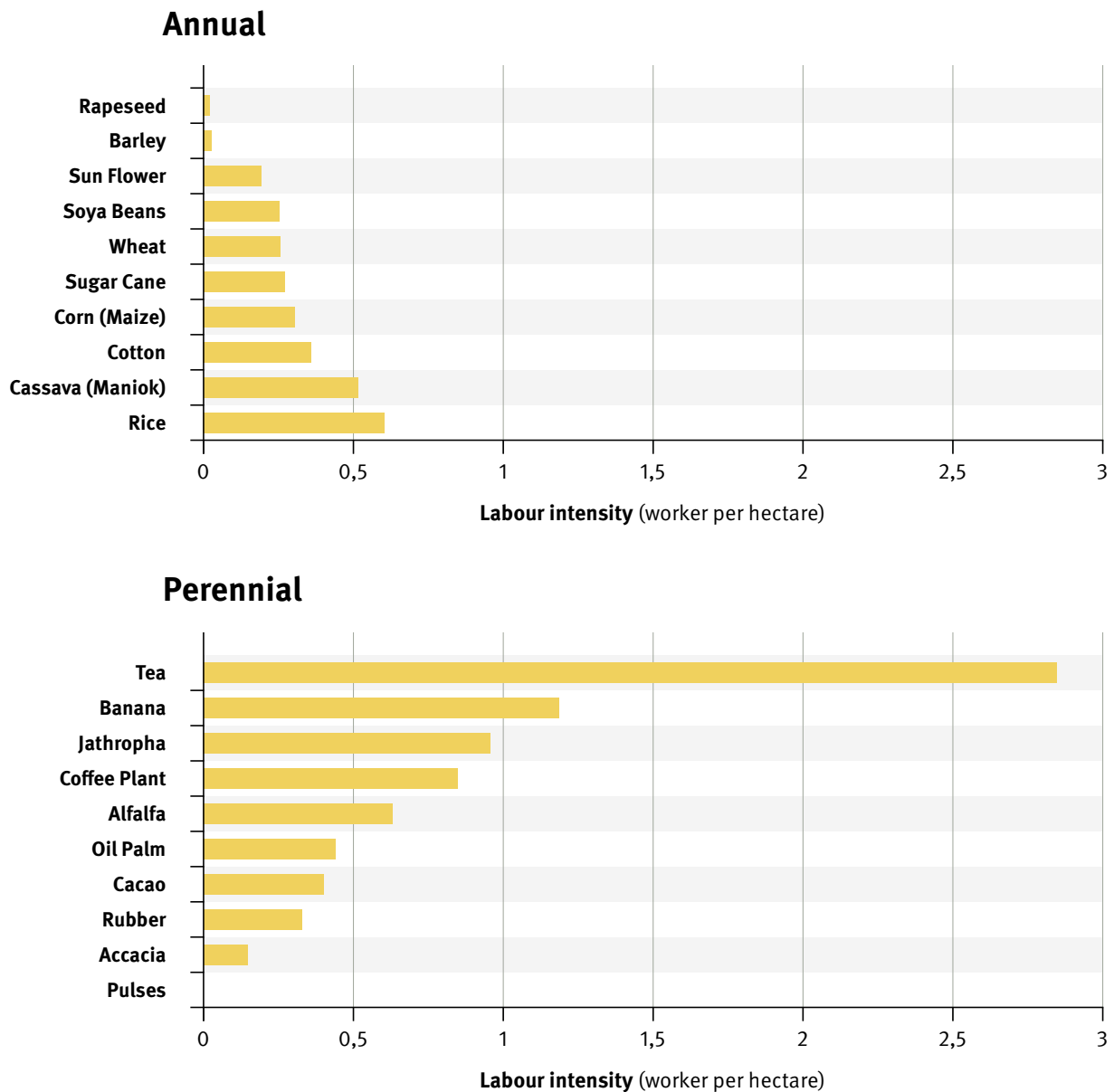
Labour

Due to higher mechanisation on LSLA farms, labour intensity there is generally low. However, it strongly depends on the crop cultivated (Figure 7, Box (f)). Deininger et al. (2011) provide estimates of the labour intensity of different crops: estimates range from 0.01 and 0.018 jobs/ha for grains and soybean for highly mechanised production to 0.42 and 0.35 jobs/ha for jatropha and oil palm cultivation, which are comparably labour-intensive crops.

Even more detailed data on labour intensities is provided in Nolte and Ostermeier (2017). They estimate labour intensities per crop based on the glob-

¹⁶ This result might be due to fertiliser subsidies programmes, especially in Malawi.

Figure 3
Labour intensities by crop in LSLA farming
 (Nolte and Ostermeier 2017: 434)



al Land Matrix dataset and additionally provide an extensive review of existing literature. Figure 3 depicts the labour intensity of annuals and perennials on LSLA farms as calculated from Land Matrix data. Generally, perennials are more labour intensive than annuals, although there are some exceptions, e.g. rice is comparably labour intensive, while rubber and oil palms have comparably lower labour intensities. Nolte and Ostermeier (2017) use a cut-off value of 0.576 workers per hectare to distinguish between labour-intensive and capital-intensive crops, which is

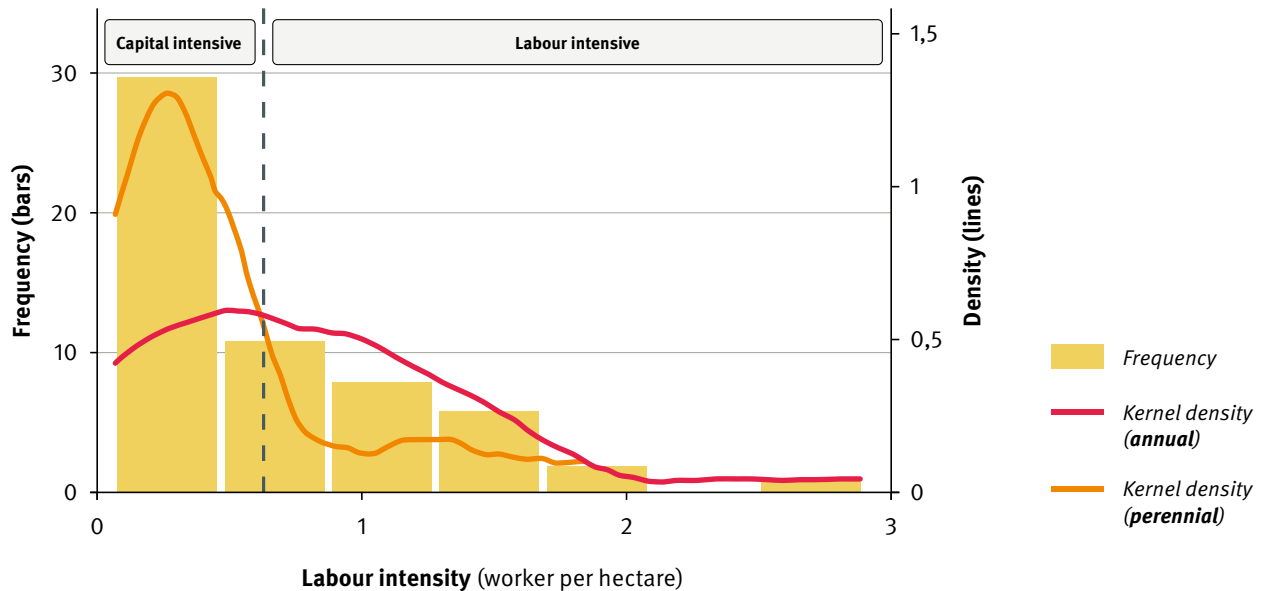
derived based on a non-parametric estimation (kernel density) applied to a dataset containing labour intensities of annuals and perennials (Figure 4). It is visible that the clear majority (76%) of 1,031 LSLA cases focuses on capital-intensive rather than labour-intensive crops.

Labour intensities might differ strongly depending on whether they are calculated for the labour-intensive establishment phase of the farm or for running production (Table 2). Furthermore, they also differ de-

Figure 4

Labour intensities in LSLA farming based on Land Matrix data

(Nolte and Ostermeier 2017: 435)



pending on the mode of production (Table 2). Even though labour intensity under less mechanised production may be higher, Shete and Rutten (2015) suspect that once farms are successfully established, subsequent investments on the farm will increase mechanisation and reduce labour intensity (similarly: Nolte et al. 2016).

In addition to calculating the number of jobs created per area, the type of jobs created is important. Often, the extent of temporary or casual employment creation is much higher than permanent employment creation. Hufe and Heuermann (2011) report a case of cotton farming in Ethiopia with a ratio of 1 : 34 for permanent to temporary employment. Similar ratios are reported elsewhere (e.g. Stebek 2011 cited in Hufe and Heuermann 2017). Also, LSLA farms often lag behind their own schedules regarding implementation or stop operation altogether. This results in a gap between expected and actual employment (Teklemariam et al. 2016; Acheampong and Campion 2014).

Unlike LSLA farms, smallholder farms generally have labour-intensive production technologies. However, it is inherently difficult to measure farm labour on smallholder farms as detailed hourly data on labour

investments rarely exists.¹⁷ Most references work with labour investments per day, while it is unclear how much time per day is spent on actual farm work. Li (2011) estimates a labour intensity of 1 adult/ha for a smallholder system in Indonesia. Rapsomanikis (2015: 15/16) estimates the labour intensity in smallholder systems as 2.5 family workers per day and hectare in Kenya, approx. 1.2 family workers per day and hectare in Tanzania, and 5 family workers per day and hectare in Ethiopia. For all countries covered by Rapsomanikis (2015), the labour intensity on larger farms is approximately only one third of the figures estimated for smallholders when measured in the same manner. In the text, the author suggests that the figures for labour intensity for smallholders might include activities carried out by women, such as the collection of fuel and water. Based on this data, Rapsomanikis (2015: 15) concludes that most smallholders over-use family labour on their farm due to the limited job opportunities in their region. Thus, smallholder farming

¹⁷ Detailed labour-economic studies on the implications of agricultural intensification in smallholder farming systems were mainly carried out in the 1960s to 1980s (see Headey and Jayne 2014 for a recent review and references).

Table 2
Estimates of labour intensities on LSLA farms in literature sources

Source	Estimates of labour intensities (jobs/ha)	Context
Schoneveld et al. 2010	0.04–0.06	Large foreign companies in Central Ghana, jatropha cultivation
	0.15–0.4	Same as above, but for the labour-intensive establishment phase
Teklemariam et al. 2016	Most jobs are created for land clearing and land preparation	89 LSLA farms in Ethiopia
Oberlack et al. 2016	Most jobs are created for land clearing and land preparation	
Deininger et al. 2011	0.15 (mechanised), 0.7 (manual)	Mechanised vs. manual harvest production mode for sugar cane-ethanol production
Nolte and Ostermeier 2017	0.04–2.8	Range depending on the crop, see Figure 3

provides a livelihood (though only part-time employment) for the members of the household.

As one of the few attempts to measure the labour input of smallholder farming precisely, McCullough (2017) estimates individual labour contribution and labour productivity for four African countries based on household survey data. She finds that in the agricultural sector, the mean labour investment, in hours per person and year, is only one third of that in the industry and service sectors, especially for Ethiopia, Malawi, and Tanzania. Based on the estimation, the low labour productivity stated for smallholder agriculture rises when the lower overall labour input is accounted for (McCullough 2017). Moreover, labour input might be quite variable depending on the season and the household member concerned. Nolte and Ostermeier (2017) estimate labour intensities in smallholder farming as 1.13 to 3.77 workers per hectare for five African countries based on a similar dataset to McCullough (2017) and compare this data directly with the estimates for mechanised production (see Figure 3 above). However, they do not provide details on their estimation strategy for smallholder data.

To summarise the evidence on labour intensities, LSLA farms can largely be expected to have labour intensities of between 0.1 and 1 employee/ha depending on the crop (the estimate of 2.8 workers/ha for tea by Nolte and Ostermeier (2017) is an exception). In contrast, smallholder farms are consistently reported to work with labour intensities above 1 worker/ha (up to 3.77 workers/ha).

Labour remuneration and working conditions: evidence of labour remuneration on LSLA farms is mainly based on reports provided by LSLA employees or unspecified reports by local communities. Schoneveld et al. (2011) report that the average monthly wage for an unskilled full-time worker on jatropha plantations in Ghana was around US\$ 50. Similarly, for 12 communities affected by jatropha plantations in Ghana, Acheampong and Campion (2014) report monthly wages of between US\$ 33 and 333 from a set of 95 respondents. While the highest salaries are paid to supervisors and farm managers, the lowest salaries are paid for unskilled fieldwork. The majority of those respondents claimed that they worked full time all year round.

Working conditions on LSLA farms and smallholder farms also differ greatly. There is next to no information available on working conditions on LSLA farms. That being said, Mandondo et al. (2014) mention that locals perceive the working conditions for tobacco farming in Malawi to be bad. They mention illnesses caused by walking long distances to the estates in bad weather without adequate clothing and respiratory diseases and infertility in men caused by handling tobacco. Low salaries and bad working conditions lead employees to describe their employment as “bondage”. The case study also reported child labour from especially disadvantaged (orphaned or widowed) households (Mandondo et al. 2014). On smallholder farms, working conditions may not satisfy international standards, although the smallholder has more freedom to plan and time his labour input on the farm. On these farms, child labour can be assumed to be the norm rather than an exception.

Figures on labour remuneration that are comparable to wages in formal employment are not generated for smallholder farms, since household labour is remunerated from the net revenue after all other inputs are paid. Given that the daily labour load on smallholder farms seems to be lower than under full-time

employment conditions, labour remuneration as calculated from the net revenue on smallholder farms is likely to be higher than assumed and might even be higher than the per-day wage reported on LSLA farms. However, evidence for this was not available in the reviewed literature.

Moreover, under smallholder conditions, the risk of facing unemployment is rather low (as might be the case with temporary or casual employment on LSLA farms). Since coping with risks and uncertainties (weather, health, socio-political conditions) is a recurring phenomenon in smallholder farms, employment on LSLA farms could provide a component in a diversified livelihood, which ideally encompasses income sources with low covariate risk structures that allow risk spreading (Eriksen and Silva 2009; Ellis 2000). However, depending on the crop type cultivated on the LSLA farm, temporary or casual employment exhibits a risk structure similar to smallholder agriculture, which does not improve the situation of smallholders relative to their situation without existence of the LSLA farm.

Other inputs

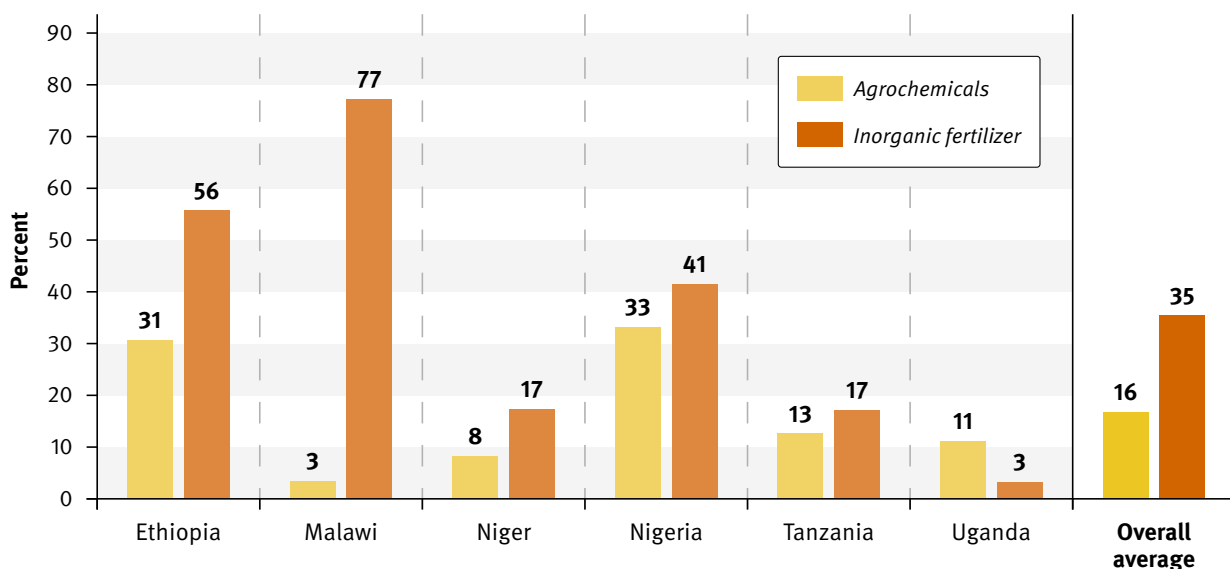
LSLA farms’ good access to capital leads to high rates of external input use. Deininger and Xia (2016) used

Figure 5

Use of external inputs across countries

Percentage of cultivating households using inorganic fertilizers and agrochemicals

(Sheahan and Barrett 2018: 87)



a regular farm survey to assess the factor inputs of small farms (<25 ha) in contrast to large farms (>100 ha). They found significantly higher adoption rates of external input and technology among large farms regarding the share of area irrigated, improved seed use, and application of fertiliser, pesticides, and manure. It is notable that the application rates of fertiliser (29%), pesticides (21%), and manure (17%) in maize cultivation were not very high even among large farms. Higher use of external inputs was reported for rice cultivation (fertiliser: 79%, pesticide: 68%, manure: 21%).

For a dataset of six African countries (Ethiopia, Malawi, Niger, Nigeria, Tanzania, and Uganda) Sheahan and Barrett (2018: 85) report that input use varies considerably, and – contrary to common assumptions – the use of chemical input and fertiliser is frequent (Figure 5). However, the intensity of use is rather low, e.g. smallholders in Tanzania or Ethiopia apply around 20 kg of inorganic fertiliser per hectare of arable land. In comparison, the world average was 140 kg/ha in 2016 and the EU average 158 kg/ha (World Bank data, available at <https://data.worldbank.org>, accessed 01/10/2019).

Business models

LSLA farms can encompass different business models: own production (Figure 7, Box (i)), contract farming (Figure 7, Box (k), Figure 6, Box (III)), or outgrower schemes (Figure 7, Box (l), Figure 6, Box (IV)) (Vaeth 2013). Own production means that land acquired by the LSLA farm is managed by staff directly employed by the farm. Typically an agronomist or production manager is responsible for production decisions. In contract farming, land acquired by the farm is given on a leasehold basis to small farmers who are in a shareholder contract. According to this model, small farmers are partly responsible for production decisions whereas inputs except labour are supplied by the LSLA farm. Sometimes smallholders receive a contract as a compensation for expropriation of their land (Vaeth 2013)¹⁸. In *outgrower schemes*, smallholders grow crops for the LSLA farm on their own land and receive payment based on the yield obtained. In most cases, inputs are supplied and sometimes, depending on the scheme, extension services are also provided (German 2014). Based on Land Matrix data, Nolte et al. (2016: 48) report that:

159 deals are reported to use some form of contract farming (47% of deals that have information on this issue) [...]. Most contract farming takes place on areas not leased by the investor, but on land owned by out-growers (101 cases). The remaining 38 cases have implemented a tenant farming model, where smallholder farmers produce for a large scale investor on land that belongs to the investor. A typical crop produced under a tenant farming arrangement is oil palm, with 15 cases (eight of them in Indonesia). The largest shares of deals that involve contract farming are in Africa (113) and Asia (34).¹⁹

Contract farming and outgrower schemes are mostly combined with own farming operations at a core LSLA farm (Vaeth 2013; Mondono et al. 2014). Whether integrating small farmers in the operations is advantageous depends mainly on the crop and its mechanisation potential: while field crops (e.g. maize or wheat) are generally easy to produce on a large scale and with high mechanisation, plantation crops (e.g. bananas, mangoes, or oil palm) require high labour input and the mechanisation potential is low (German 2014; Figure 7, Box (h)). Consequently, while own large-scale production may be appropriate and economically feasible for field crops, outgrower schemes or contract farming have relative advantages for plantation crops. Kleemann and Thiele (2015) find some empirical support for the assertion that contract farming occurs more frequently for labour-intensive crops: out of 271 cases reported in the Land Matrix dataset for their study, 36 mention contract farming. Most of these cases focus on cash crops and biofuels (mostly jatropha), while only two produce staple food crops.

The successful implementation of outgrower and contract farming schemes also depends on the strategic considerations of investors and smallholders. On re-

18 Vaeth (2013: 1) defines ‘farmers under smallholder contract [as farmers...] who received a plot within the concession for oil palm cultivation as part of a compensation scheme for earlier land losses’ and ‘outgrowers [as farmers...] who cultivate oil palm on a contractual basis on land they own or on plots for which they hold land use rights of at least 25 years’.

19 The term “tenant farming model” in Nolte et al. (2016) is similar to what Vaeth (2013) calls “contract farming”, while they seem to use “contract farming” to summarise what Vaeth (2013) calls “outgrower schemes” and “contract farming”.

viewing 38 cases in Ethiopia, Ghana, Nigeria, and Zambia, Schoneveld (2017) finds no outgrower schemes or what he calls tenant farming schemes.²⁰ With regard to the Ethiopian cotton and the Nigerian rubber sectors, he says that from the perspective of the investors, it was economically undesirable, to integrate smallholders, among other things because it involves creating a local market for these crops, which might incentivise estate theft. To date, this incentive is low, because no off-take markets for cotton and rubber exist in these countries and without such markets, these crops have little economic value. By contrast, oil palm can be processed viably on a small scale. The author reports that early initiatives by investors in Nigeria that sought to establish contract farming failed as investors were only interested in purchasing fresh fruit bunches rather than processed palm oil. Since the latter yields a higher income, smallholders viewed the LSLA as competitors rather than as a new market opportunity.

4.1.2 Crops and yields

Crops

Cropping patterns differ between smallholder and LSLA farms. Smallholders typically focus (nearly entirely) on food production or on a combination of food and cash crop production (Figure 7, Box (c)). Giller et al. (2011) report that a strong focus on cassava and the cultivation of maize, sorghum, or millet is widespread in smallholder systems across Africa.

In contrast, LSLA farms are often distinguished in terms of producing either food (Figure 6, Box (V)) or biofuels. In contrast, Borras et al. (2013, 162) point to the notion of so called “flex crops”, i.e. crops that can be used for multiple purposes, such as food, biofuels, or even industrial purposes (e.g. corn, Figure 7, Box (VII)). While classification as a flex crop does not have implications on production considerations, the use and, therefore, their impacts on market prices and food security are more difficult to assess as they straddle different commodity sectors (i.e. food, feed, fuel, and other industrial commodities; Borras et al. 2013; chapter 4.2.6).

In the dataset retrieved from the Land Matrix database for this report, 49% of the 919 deals focusing on agri-



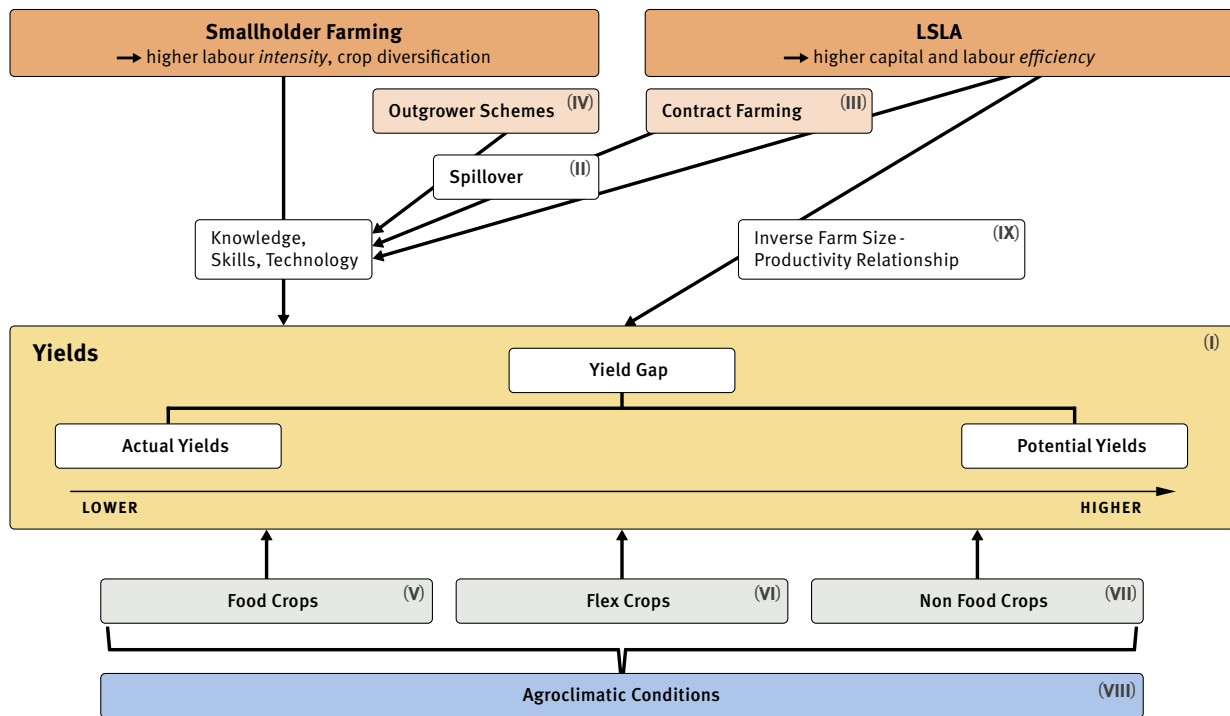
Large scale tea plantation in Rwanda

culture-related activities seek to produce food crops as their main purpose, while 29% produce biofuels. Livestock (6%), non-food agricultural commodities (5%), and unspecified agriculture (10%) account for small proportions. The most frequently mentioned crops in the Land Matrix dataset of concluded deals are corn (149 mentions), soybeans (104), rice (85), jatropha (84), oil palm (81), sugar cane (75), vegetables (unspecified, 55), wheat (54), and cotton (42), accounting for an area of 13 m. ha. They encompass the four most important flex crops: corn, oil palm, soybean, and sugar cane (Borras et al. 2013).

Detailed evidence based on LSLA farms and their smallholder farm counterfactuals is scarce. As one of the few comparable datasets, Deininger and Xia (2016) provide comparable data on crops for small and large farms in Mozambique based on a national dataset. In their data, 92% of the area cultivated by smallholder farms are under annuals, while the share of perennials reaches 1.1%, and 5.8% of the land are left fallow. Of the crops cultivated, maize accounts for the biggest share (32%), followed by cassava and pulses (16% each), while rice, peanuts, sorghum, vegetables, and cotton account for minor shares. Rice and sorghum are concentrated in regions with

²⁰ Schoneveld (2017: 123) states that ‘none of the projects incorporated smallholders into their value chains through outgrower or tenant farming schemes’ without defining the term “outgrower or tenant farming schemes” further.

Figure 6
Relation between crops and yields in smallholder and LSLA farming



suitable agroclimatic conditions. Larger farms focus mainly on rice, vegetables, and cotton with very large farms growing sugar cane in particular.

In terms of water demand, Woodhouse (2012) argues that certain crop choices mean that LSLAs are likely to need irrigation water. For example, he notes that sugar cane and rice require irrigation ‘in all but the most humid climatic zones of SSA’ (ibid.: 215) and wheat as requiring irrigation ‘in SSA, except in the very highest altitudes’ (ibid.).

As a large share of crops produced on LSLA farms is for non-food purposes, the shift from smallholder farms to LSLA often results in an effective loss of food production relative to the food-non-food production ratios of smallholder farms (Rulli and D’Odorico 2014).²¹

Yields

The main argument in favour of LSLAs is that the inflow of capital and modern production technology can close the yield gap in developing countries and thus combat hunger in the poorest countries of the world. The yield gap describes the difference between actual and potential yields (Figure 6, Box (I)). The actual

yield refers to the amount of products actually obtained under current production conditions (Figure 6, Box (VIII)). The potential yield describes the amount of the same products that can be obtained if the full

21 Regarding flex crops, i.e. crops that can be used for multiple purposes such as food and biofuels, researchers need to assume how much is used for food and other purposes respectively. Rulli and D’Odorico (2014: 5/6) explain their choice of assuming 50% of biofuels in one scenario for the production appropriation in LSLAs:

It should be stressed, however, that some crops – especially sugar cane and oil palm – are often used for other uses (e.g., biofuel, cosmetics, etc.) and only partly for food as reported in the FAO food balance sheet [...]. Because these crops have high yield (tons ha⁻¹) and produce food with high caloric content, including them in the food calorie count would produce an overestimate in the number of people fed. To account for this effect, we repeat the same calculations with two different assumptions: (1) only 50% of the sugar cane and oil palm crops are utilised for food production and included in the calculation of the number of people who could be fed. This could appear to be a high (and conservative) estimate; in fact, globally, only 20% of sugar cane is used for biofuel production [...] while 24% of palm oil is used for industrial purposes [...]. We use here a higher estimate (50%) because biofuel demand is a major driver of LSLAs [...] and the fraction of cropland acquired for biofuels is expected to be much higher [...].

production potential of the site is realised, i.e. with state-of-the-art production technologies, appropriate input use, and best seed varieties (Deininger et al. 2011; see also Figure 6). Several methods for calculating yield gaps are available. Consequently, the figures obtained from different references are not necessarily comparable (Rulli and D'Odorico 2014; van Ittersum et al. 2013).

Deininger and Byerlee (2012) present data on the yield gaps for the crops maize, oil palm, soybean, and sugar cane for different world regions. In SSA, the yield gap is highest for all crops: only 20% of the production potential for maize are realised, 32% each for oil palm and soybean, and 54% for sugar cane. Similarly, Rapsomanikis (2015: 11) reports a yield gap of 76% (meaning that on average, 24% of the production potential are realised). Thus, of all regions of the world, the potential to improve yields seems highest in SSA. However, while improvements in production technologies and innovations led to a constant growth rate of yields in developed countries, in developing countries, especially in SSA, yield improvements are stagnating or declining (Deininger et al. 2011: 14).

In agrarian and development literature, there is a critical discussion as to whether large farms have the potential to achieve higher yields per hectare than smallholder farms (Barrett et al. 2010). For one crop and the same agro-ecological zone, an inverse relationship between farm size and yields is postulated (Figure 6, Box (IX)), meaning that smallholders commonly achieve high yields per area unit due to highly labour-intensive production and crop diversification (Figure 6). In contrast, large farms achieve higher capital and labour efficiency at the expense of lower yields per hectare. Most empirical data supports this inverse farm size-productivity relationship, showing that smallholder farms achieve high technical efficiency (calculated for all input factors) (see Barrett et al. 2010 and further references cited there).

A direct comparison of yields between smallholder and LSLA or large farms yields mixed results in different literature sources. Based on a national dataset for Mozambique, Deininger and Xia (2016) show that small farms obtain higher yields for cassava, sorghum, and peanuts, but lower yields for rice and sugar cane. Yields for maize are comparable between both

groups. Note that this result is achieved despite large farms having much higher adoption rates of modern production techniques and inputs. Similarly, for Malawi, Deininger and Xia (2017) find that smallholder yields are higher than those of larger estates for all crops except cassava. In contrast, Jaffee (2003, cited by Mandondo et al. 2014) report that smallholders in Malawi achieve only half of the yields of large farms for tobacco production. In general, anecdotal evidence suggests that one reason for low yields on LSLA farms relates to unsuitable crops and production technologies: Shete and Rutten (2015) report that maize yields for an LSLA farm in Ethiopia were only one quarter of the yields of smallholder farms since the area of the LSLA farm is unsuitable for maize cultivation due to water logging.

To sum up, the available evidence does not support the proposition that LSLA farms generally obtain higher yields per area than smallholder farms even though they usually apply higher amounts of external inputs.

By contrast, in comparison to average yields on smallholder farms, increased yields may be obtained in contract farming (Figure 6, Box (III)) and outgrower scheme models (Figure 6, Box (IV)). However, evidence in the LSLA literature is scattered and often anecdotal. For example, Mandondo et al. (2014) report that smallholders in tobacco farming with outgrower contracts achieve better results than those without outgrower contracts due to improved access to inputs. A positive impact of outgrower schemes on production technologies and probably yields is also mentioned elsewhere in the LSLA literature without providing data on yields (German 2014; Hufe and Heuermann 2017; Vaeth 2013). This positive impact is also found in the literature on contract farming not specifically related to LSLAs (Bellemare and Bloem 2018).

4.1.3 Marketing of products and subsistence production

Literature on the marketing of products (Figure 7, Box (m)) from LSLA farms is scarce. It is mostly assumed that the farms market their products internationally or on national markets (D'Odorico et al. 2017; Shete and Rutten 2015). In the case of biofuel crops in par-

particular, marketing can be assumed to be nearly completely international. Based on local data, Teklemariam et al. (2016: 15) even report that in Ethiopia, ‘those companies which export half or three-quarters of their production, are entitled to get comparably more incentives (exemption from income tax [...]) compared to those investors which supply their production to the domestic market’. The authors note that there is a discussion at political level whether those incentives are justified or not.

Smallholders, in contrast, produce predominantly for local markets or for their own consumption. In Tanzania and Kenya, smallholders account for more than 60% of national food production, in Ethiopia the share is around 30% (Rapsomanikis 2015: 9). The share of subsistence production is often high, reaching on average over 75% among smallholders in Ethiopia and Kenya. Generally, the share of marketed products is higher for larger farms. Often, the marketing of products is constrained by poor market access (Rapsomanikis 2015: 28–29).

4.1.4 Economic results

Profitability is a central concern for farming operations. For LSLA farms, it is also the precondition for continued investment and, therefore, the generation of benefits for the local population (Deininger and Byerlee 2012, see also chapters 4.2.2 and 4.2.4).

As many LSLA projects have yet to be implemented, evidence of long-term profitability does not yet exist. As of 2016, the Land Matrix database shows strong increases in the “start-up” and “in operation” categories compared to the situation in 2013 (Nolte et al. 2016). Consequently, it will take a few years for evidence that shows whether LSLA farms are viable in the long term.

Deininger et al. (2011: 25–26) review the market potential of diverse crops produced on large farms in SSA. Maize production in Zambia turned out to be not competitive on international markets due to the high transport costs, even though no costs for land were assumed. In other African countries, large-scale maize production is competitive with imports on the

local markets, but not viable for export. A doubtful profitability was also found for sugar cane, as well as for jatropha, which can only be viable where labour costs are low and fuel prices high. Similarly, Peters and Thielmann (2008) report higher production costs for biofuels produced in India and Tanzania than for their fossil counterparts. Consequently, economically viable production is only feasible where state support programmes exist. Deininger et al. (2011: 26) only report positive results for high-value export crops (e.g. tea, tobacco, cashews, groundnuts with values over US\$ 500/t), where large revenues can outweigh high transport and marketing costs under conditions of low land prices and cheap labour.

The discrepancy between the difficulties experienced by LSLA farms when starting operations and their initial ambitions indicate that most farms experience higher costs than expected (chapter 4.1.1). First evidence suggests that jatropha production is the most problematic. Acheampong and Campion (2014: 4597) report that ‘most of the Jatropha companies [in their study regions across Ghana] have collapsed.’ Nolte et al. (2016) also report that many “failed” deals in the Land Matrix database are related to jatropha cultivation. Deininger and Byerlee (2012) acknowledge that LSLA investments are associated with potentially high risks stemming from tenure insecurity, lack of capacity to run large operations, and the unknown technical viability of investment plans. The development of LSLA investments might therefore deviate from national and local visions and potentially result in resource conflicts.

Due to lack of evidence on the long-term viability of LSLA farms, it is useful to look at large farms that have existed for a longer period of time. Drawing on the work of Deininger and colleagues, assessments investigating comparative microeconomic data on smallholder farms and large farms are available for Malawi and Mozambique. The study for Malawi is based on a survey, administrative records, and remote sensing data (Deininger and Xia 2017); the study for Mozambique is based on national farm survey data (Deininger and Xia 2016). As reported in chapter 4.1.2, both studies find evidence of higher yields on smallholder farms for most crops, despite higher modern input use resulting in higher costs on large farms. Thus, larger farms are likely to achieve lower



Failed and abandoned 40 hectare Jatropha farm of Agro Pecuria de Manica LDA, which was founded as biofuel farm in 2010 at old portuguese cotton farm in Gondolo, Mozambique

revenues and higher costs, resulting in a lower net margin compared to smallholders.

Both Deininger and Byberlee (2012) and Deininger et al. (2011) compare the recent surge in LSLAs with former attempts to establish large farms, most of which failed. Both report similar outcomes for semi-mechanised sesame and sorghum production in Sudan between 1970 and 2007 resulting in conflicts, environmental degradation, low yields, and low profitability.

For smallholder farming operations, the profitability of own production as calculated in farm economic assessments is not usually the primary concern (see Figure 7, Box (c), chapter 3.1). Nevertheless, one can assume that in many cases, smallholders achieve higher profitability due to comparably high yields under low input conditions. Economic viability strongly depends on the remuneration of family labour, which can be assumed to be very low under the imperfect labour market conditions prevailing in developing countries. As residual claimants, smallholders are willing to accept extremely low remuneration of labour, which varies depending on the activity type or risks involved. However, as the labour intensity of smallholder farms (measured in hours) is lower than often assumed, figures for labour productivity

improve relatively, reducing by half the productivity gap to other sectors (McCullough 2017).²²

In summary, therefore, smallholder households generally achieve high technical efficiency based on all inputs, which is, however, achieved at the cost of the low remuneration of labour. Despite smallholders often supplementing farming operations with off-farm activities, the share of poor households among them is larger than the national average in many countries (Rapsomanikis 2015: 22).

In agricultural development literature, the relative advantage of small farms over large farms is discussed on a general level. In the supply, agro-processing, and marketing sector, integration into large operations took place. By contrast, agricultural production – even in developed countries – is still dominated by family farms, i.e. owner-operated, comparably small enterprises. Obviously, in agricultural production, owner-operated smaller farms have advantages, e.g. lower supervision costs, local knowledge, and flexibility in labour supply. In general, a relative superiority of larger farm sizes can only be assumed for plantation crops requiring a close integration and coordination of production with processing (Deininger and Byerlee 2012). The authors of this study highlight that additional insights for the LSLA debate can be gained from agricultural development literature.

4.1.5

Summary on microeconomic questions

In the literature, microeconomic assessments of LSLA farms are scarce. This may be due to the reluctance of LSLA farms to provide data and to the fact that many LSLA farms have not yet reached full operation. This is why the authors of this report also relied on data from the comparison of small and large farms, the lat-

²² McCullough (2017: 134/135) explains: '[N]ational accounts may mis-measure key components of the productivity equation, namely, labour inputs or returns per worker. [...] biases arise from the methods used to classify workers as agricultural or non-agricultural, the assumption that workers in each sector work an equal number of hours, and the assumption that workers from each sector have the same levels of human capital.'

ter being not necessarily LSLA farms. Due to the fact that these larger farms have existed for a longer time, information about them can provide valuable insights into the long-term performance of LSLA farms. Data from different sources was also combined. However, as assessment methodologies may have differed, information should be treated with care.

The different dimensions of the production process and economic results were investigated. The main findings of this investigation are:

- **Production factors and production technology:** smallholder farms and LSLA farms strongly differ in factor use and production goals.
 - **Land:** smallholder farms are smaller in size (typically below 2 ha) while LSLA farms are per definition larger than 200 ha. However, on many LSLA farms, only a fraction of the acquired land is cultivated.
 - **Capital:** per definition, LSLA farms have much fewer capital constraints than smallholders, which mostly work under strong capital constraints and have inadequate access to credit. This explains why LSLA farms have higher levels of mechanisation, whereas mechanisation is mostly low on smallholder farms.
 - **Labour** intensities are mostly high in smallholder agriculture; on LSLA farms they depend on the crop type. Typically, plantation crops are labour intensive.
 - **Labour remuneration:** on most LSLA farms, the share of temporary and casual workers is high, while high-paid permanent jobs are rare. Although there is anecdotal evidence that locals are dissatisfied with wages, actual evidence is scarce.
 - **Other inputs:** the use of fertilisers, improved seeds, and pesticides tends to be higher on larger farms, although no specific data for LSLA farms exists.
 - **Business models:** besides own farming operations, LSLA farms may cooperate with small-

holders in “contract farming” and “outgrower contract” schemes. Both systems seem to be especially prevalent among African LSLAs.

- **Crops and yields:**

- **Crops:** the share of food crop production on smallholder farms is higher than it is on larger farms. A large share of LSLA farms focuses on biofuels.

- **Yields:** there is little evidence that large farms achieve higher yields than smallholder farms. The inverse relationship between farm size and productivity – which is well documented in agrarian development literature – even supports the opposite case.

- **Marketing of products:** although there is little evidence, LSLA farms can be assumed to produce predominantly for international markets, while smallholders per definition partly produce for their own needs and partly sell crops mostly on local markets. However, cash crops may also be traded internationally.

- **Economic results:**

- There were no full assessments of the economic performance of **LSLA farms** in the literature. Given that on larger farms higher external inputs are used but yields are probably lower than on smallholder farms, the profitability of larger farms is likely to be lower than expected. Their potential is mainly seen in high-value export crops and the integration of contract farming or outgrower schemes.
- While there is evidence that **smallholders** achieve high technical efficiency, their labour efficiency and productivity is mostly lower than those on large farms. However, the primary concern for smallholders is the long-term survival of the household (rather than achieving the highest level of profitability). ◀



4.2 Social questions: effects on the local economy and food security

Effects on the local economy and food security of the target populations result from several mechanisms, each of which may have positive or negative effects. After some preliminary considerations, it was decided to focus on effects caused by (1) land loss experienced by the local population (Figure 7, Box (n)), (2) employment (Figure 7, Box (o), (p)) and the discharge of labour (Figure 7, Box (q)), (3) the creation of infrastructure through LSLA farms (Figure 7, Box (r)), (4) spillover of agricultural knowledge and technologies to smallholder farms (Figure 7, Box (g), Figure 6, Box (II)), and (5) the changes of local food crop prices (Figure 7, Box (s)). The results are summarised in the final chapter. Note that the effects discussed in this chapter can be separated only analytically but in practice occur simultaneously.

Preliminary considerations

The impact of LSLAs on the local economy differs strongly according to the type of land use LSLA replaces and according to the wider conditions in the target country. It is often assumed that LSLA land is previously idle and unused and that, consequently, there are no negative impacts on the local population. However, many studies show that this presumption does not hold true. As widely reported, LSLAs replace smallholder agriculture or land used as commons. Both types of use may not qualify as intensive land use according to agronomic perceptions but represent crucial parts of local livelihoods.

Consequently, in addition to reporting case studies, much of the literature is concerned with the question of the conditions under which particular impacts of the LSLAs might arise. A typology of countries considering the extent of the yield gap (Figure 6, Box (I)) and the share of idle land suitable for agriculture (Deininger and Byerlee 2012; Deininger et al. 2011) is relevant for all social questions. The authors refer to statistical data as presented in a World Bank report (Fischer and Shah 2010); however, a documentation of their methodology is not available online. Deininger et al. (2011) conclude that the highest potential for beneficial impacts of LSLAs is in countries with a high yield gap and abundant suitable land available, e.g. in Mozambique, Sudan, and Zambia. In countries with a high yield gap but little suitable land available, the authors see potential for promoting agricul-

tural growth, particularly with outgrower schemes (Figure 7, Box (l), Figure 6, Box (IV)). Similarly, based on a statistical analysis of a global dataset, Arezki et al. (2015) find that abundant non-forest land with a high production potential plays a significant role in explaining investors' interest in a target country.

In a more detailed GIS-based analysis of deals recorded in the Land Matrix with high geographical precision and considering a 10 km radius around an investment, Messerli et al. (2014) set up a typology based on accessibility/remoteness of the site and population density. They find that the deals target densely populated/easily accessible and sparsely populated/remote regions equally. Replicating the analysis of Deininger et al. (2011) with more detailed data, they show that most deals target regions with little suitable land (comparably densely populated) and a high yield gap. This contradicts the findings and recommendations by Deininger et al. (2011, see above).

Furthermore, contracts are concluded mainly with governments on national, regional, or local levels or with traditional leaders. Alden Wily (2011) argues that the persons facilitating or concluding the contracts often expect to benefit disproportionately from doing so. Accordingly, information regarding how the land to be leased is actually used is often false or lacking. This often results in neglect of (land) rights of the local population and conflicts during LSLA implementation (see chapter 4.3.1). In turn, this leads to insecurities on the side of investors which may translate into LSLA projects lagging behind their schedule, using less land than they planned to, achieving lower yields, or actually failing to be economically viable at all (see chapter 4.1.1).

Evidence from several sources therefore underlines that land targeted by LSLA investments is not necessarily idle and unused and that LSLA can be expected to have immediate effects on the local population.

4.2.1 Land loss

Many studies explicitly consider the change of livelihoods for locals caused by land loss (Figure 7, Box (n)). The impact and scope of land loss strongly de-



Photo: M. Ressel/MISEREOR

Land loss near Muwimbi in the Iringa district in Tanzania

pend on how intensively land was used. For two cases in Ghana and Kenya, for example, Nolte and Vaeth (2015) report minimal displacement due to low population density for their Ghanaian case study and the fact that the land acquired in Kenya was originally a swamp and thus only used for seasonal farming activities.

Schoneveld et al. (2010) report on the impacts of land loss for a case study in Ghana, where the LSLA took place during their field work period. The authors report that approx. 70 households cultivating mainly yam in shifting cultivation systems lost access to their plots. Due to land loss, households lost income from cropping (Figure 7, Box (w)) and non-timber forest product use (Figure 7, Box (x)) and, consequently, experienced declines in food security (Figure 7, Box (y)) and living standards. While most of them simply increased the cropping intensity (shorter or no fallow periods), only few better-off households managed to diversify their incomes into livestock keeping and off-farm activities.

Similarly, Acheampong and Campion (2014) report shortened fallow periods for their case studies in Ghana. The self-assessed well-being and food security of the affected households was lower after they experienced the land loss.

Shete and Rutten (2015) use a difference-in-difference approach to assess the impacts of an LSLA farm statistically. This means the authors surveyed affected and non-affected households, asking both groups about their status before and after the LSLA intervention. In their study region in Ethiopia, a former common grazing area was transformed and used for maize production by an LSLA farm. They found that affected households now keep less livestock, and that the livestock composition changed from grazers (cattle) to small ruminants, which can be kept in the homestead. What is more, the household income and food security status of the affected households was lower than in the non-affected group: while the consumption expenditure indicator showed that 32.4% of affected households were food insecure, only 12% of the non-affected households experienced food insecurity. Similar findings arose from the comparison of strategies to cope with food shortages. The data underlines that food insecurity also occurs without the impact of the LSLA farm, but significantly increased due to land lost to LSLA farms.

By means of modelling, Baumgartner et al. (2015) find that land loss alone has a negative impact on income. Furthermore, in their study, one smallholder group using more advanced technologies (permanent fields, use of plough and animal draught

power) experienced less income loss than another ethnic group using more basic production technologies (shifting cultivation with stick).

4.2.2

Employment creation

From a methodological standpoint, Oya (2013) asserts that estimating employment effects requires a clear counterfactual scenario. Despite the fact that LSLA farms often create few employment opportunities in the region and that wages are low (chapter 4.1.1), putting employment generation and wages on the LSLA farm into perspective requires a comparison with wages paid by other employers or employment opportunities beyond the LSLA farm. This is why some studies try to calculate a net employment effect (Figure 7, Box (p)), which expresses lost employment minus the job creation by the LSLA farm and other follow-up effects (Figure 7, Box (q)).

Although wages might be low, locals clearly benefit from the stable payment that comes with a permanent job. The wage of US\$ 50 reported by Schoneveld et al. (2011) for jatropha plantations in Zambia covers approx. half of the average income of a household with nine persons.²³ The majority of these employees perceived this as an improvement of their livelihood – not due to increased income but due to the increased stability of income flows, which helped them to cover food and medical costs more regularly. Similarly, this also leads to improved food security for farm workers (Figure 7, Box (y) (Schoneveld et al., 2010).

For the Ghanaian oil palm sector, Vaeth (2013) reports differentiated impacts depending on the type of employment. While permanent workers generally noted positive effects, partly negative perceptions about low salaries and disappointment at not being offered a permanent contract prevailed among low-paid casual workers. Statistically, Vaeth finds that employees on the farm have lower incomes than those in other groups (independent farmers, out-growers, and contract farmers).

Likewise, for tobacco estates in Malawi, Mandondo et al. (2014) report mixed effects. While employees may

benefit from stable employment, this employment can also have negative impacts on the livelihood portfolio: in one of their case study areas, employment caused positive synergies with other activities, e.g. by increased availability of capital, which is invested in other income-generating activities, causing a higher net benefit of employment than the actual salary. In contrast, in the other case study location, the net benefits of employment are reduced by the loss of other livelihood activities due to the shortage of labour. Here, crop diversity and other non-farm activities, such as handicrafts, were reduced.

Casual labour clearly provides fewer benefits for locals than permanent employment. In reviewing 38 cases in Ethiopia, Ghana, Nigeria, and Zambia, Schoneveld (2017) finds that most people work as casual labourers for 2–5 months of the year on LSLA farms. He argues that in Ethiopia and Nigeria, affected communities considered waged employment to be socially undesirable as it is associated with (land-)poor migrant groups. Instead, locals were more interested in ‘in contract farming or in supplying investors on an arm’s length basis’ (ibid.: 128). Furthermore, he notes that employment opportunities centre on the most intensive farming month for local farms. Hence, it is mostly household members not actively engaged in other economic activities that could take up employment, i.e. women and young people, or own farming activities have to be reduced to benefit from employment. Furthermore, employment has distributional consequences in the host communities as only a fraction of households can benefit from it. Among locals, the young, the physically strong, and the better educated are often preferred when offering employment (Vaeth 2013). Similarly, Baumgartner et al. (2015) expect that young men will benefit more from employment than women and the elderly. As formal employment is mostly concentrated on men, social and within-household distributional effects can be expected. Acheampong and Campion (2014) report that people in households

23 Schoneveld et al. (2011: 10) express this as follows: ‘The average wage for unskilled fulltime employees amounted to 75 Ghanaian Cedi (US\$ 50) per month. On the basis of district averages, this would constitute approximately 51% of the average household income (assuming a real GDP per capita of US\$ 131 per annum and an average household size of nine persons).’

affected by land loss did not apply for jobs on the farms due to their negative feelings surrounding the loss of land. Thus, the negative effects of LSLAs on those household's livelihoods are not balanced out by the positive effects of employment. That employment does not benefit land-losing households is also reported by Schoneveld et al. (2011). However, there are also few LSLA projects explicitly promoting employment for women and marginalised groups (German et al. 2011; Hufe and Heuermann 2017).

For a sugar cane project in Sierra Leone, Fielding et al. (2015) find that casual employment opportunities are mainly available in the growing season, a time when smallholder farms already suffer labour shortages. Although the project works actively to bring benefits to the community, the share of permanent employees ranged from 25% to 51%, and the share of women employed was between 8% and 12%. For the same project, a household census by Hofman et al. (2018) finds that 40% of the households supply labourers for which positive income effects were proven. However, the authors suspect 'their gains may not outweigh the losses by non-labourer households' (Hofman et al. 2018: 16).

Predominantly positive effects on livelihoods are reported for outgrower schemes (Figure 7, Box (l), Figure 6, Box (IV)) and contract farming (Figure 7, Box (k), Figure 6, Box (III); Hufe and Heuermann 2017). Outgrowers benefit from access to agricultural knowledge and technology, as well as from credits, training, and cash income generated by selling the crops (Figure 6, Box (II); Vaeth 2013). Hence, Mandondo et al. (2014) report that smallholder tobacco farmers with outgrower schemes achieve higher gross incomes than their independent counterparts due to improved access to inputs. However, after factoring in trade-offs from follow-up effects (e.g. boosting or inhibiting other activities), there was no difference between the net income from tobacco for outgrowers and independent farmers.

However, depending on the terms of the contracts, the effects of outgrower schemes and contract farming can also be mixed. German et al. (2011) report on a jatropha outgrower scheme in Zambia where high risks and uncertainties in the contract are borne by the smallholders, and communication with locals was biased towards positive outcomes.²⁴ For a con-



Workers on a large farm in Gambela, Ethiopia

tract farming scheme on sugar cane in Malawi, Adams et al. (2018) report that dependencies are created through the redefinition of property rights and the cash flows involved in the scheme. A full evaluation of schemes is only possible by studying the reaction of locals to the scheme and the impact on the livelihood portfolio of participating and non-participating community members. Nolte et al. (2016) stress that business models involving smallholders require particularly careful planning and continuous work and communication on the part of the investor.

Another consequence of employment opportunities on LSLA farms is the in-migration of labour (Figure 7, Box (t)), particularly in sparsely populated regions. This concerns highly-skilled specialists working in management positions on the LSLA farms, which

24 German et al. (2011: 12) summarise the details of the contract design as follows:

Farmers, for the most part, approached these outgrower agreements with high expectations and minimal awareness of the possible risks associated with returns on investment or company control over pricing and land use. Agreements were found to be signed by farmers but not the company, resulting in one-sided contractual obligations. This, together with provisions requiring farmers to keep land under jatropha for 30 years and sell only to Marli, and allowing Marli to set prices one-sidedly, highlights the potentially exploitative nature of these agreements. [...] Findings suggest that the promise of loans, secure markets, and company proceeds for "community development" were prominent factors encouraging farmer participation, with income from the sale of seed of only secondary importance.

are seldom available locally, but also, typically, migrant workers from elsewhere (Hufe and Heuermann 2017). The in-migration of labour leads to a reduction of opportunities for locals in particularly remunerative positions.

Meanwhile, although migrants sometimes compete with locals for jobs, the in-migration of labour can affect the local economy in other ways too: in a study modelling the impact of a LSLA farm on the local population, Baumgartner et al. (2015) identify positive effects on the local economy for a region with very low population density due to increased demand for food products by farm workers, which in turn provides better opportunities for smallholders to sell their products. Their case represents one of the “high yield gap, abundant agricultural land” type following the Deininger et al. (2011) typology. The authors furthermore assumed that two thirds of the workers on the LSLA farm are non-local. On the other hand, Teklemariam et al. (2016) find that temporary working opportunities on the LSLA farms lead to an influx of migrant workers, who, after the termination of their work, encroach on “free” forest land in the vicinity of the farms. Thus, in addition to the land loss caused by the LSLA farm, locals have to cope with additional loss of income from loss of non-timber forest products caused by deforestation by migrant settlers.

While higher wages and permanent jobs are required to achieve positive effects on the local population, LSLA farms often benefit from the low labour remuneration in the target country to achieve higher own profits. In the long run, it is questionable whether LSLA farms can create employment opportunities at all. It is projected that overtime and as wage rates rise, labour-intensive tasks will be mechanised to improve the profitability of the farm (Shete and Rutten 2015). Moreover, in the absence of the organised representation of farm workers or labour unions, wage rates tend to stay low (Li 2011).

4.2.3

Discharge of labour

The discharge of labour (Figure 7, Box (q)) caused by the creation of LSLA farms naturally depends on whether the land was actually occupied and used before es-

tablishment of the LSLA farm. Chapter 4.1.1 reviewed and compared labour intensity on LSLA and smallholder farms. It showed that the labour intensity on LSLA farms strongly depends on the crop (Figure 7, Box (f), (h)): figures range from 0.01 jobs/ha for mechanised grain farming to 0.9 jobs/ha for jatropha plantations. Smallholder farms are generally labour intensive, figures of between 1 and 3.77 jobs/ha are mentioned (Nolte and Ostermeier 2017). However, it is questionable whether figures are comparable due to difficulties in measuring smallholder labour input on farms.

Instead, when calculating the discharge of labour, the number of people for whom a smallholder farm provides a livelihood should be considered. The discharge of labour is often calculated by counting the number of households who lost their land. In densely populated regions with smallholder farm sizes of 1–2 ha, the creation of LSLA farms implies high discharges of labour.

Nolte and Ostermeier (2017) calculate the net employment effect of LSLAs (Figure 7, Box (p)) for five African countries.²⁵ Taking into account the percentage of smallholder farms that are crowded out by LSLA farms and which business models LSLA farms follow, they find a net employment effect of between -22 and -74% from the acquired land, accounting for between -0.08 and -1.62% of the employment in agriculture in the whole country. Therefore, although the discharge of labour is high in the immediate vicinity of the LSLA, it is comparably low in relation to total national employment in agriculture. The discharge of labour can be minimised only partially by the cultivation of labour-intensive crops and contract farming schemes. However, the above-mentioned authors acknowledge that in order to get the full picture, the indirect employment effects (Figure 7, Box (u)) of LSLAs would have to be considered as well.

²⁵ Nolte and Ostermeier (2017) combine data from the Land Matrix dataset and data from the FAO Smallholder Farmers Dataportrait for five African countries. Cases of LSLA farms amount to 43 for Ethiopia, 6 for Kenya, 32 for Nigeria, 10 for Tanzania, and 8 for Uganda.

4.2.4

Creation of infrastructure

Infrastructure creation (Figure 7, Box (r)) by LSLAs can take the form of general infrastructure (e.g. roads or electricity networks), infrastructure directly related to the business activities of the LSLA farms (e.g. irrigation channels or processing facilities), or social service infrastructure (e.g. support for schools, health care services or hospitals) (Hufe and Heuermann 2017).

In general, investments in infrastructure have positive effects that are welcomed by the local population and can have positive multiplier effects: in a study of the oil palm sector in Ghana by Vaeth (2013), for instance, the LSLA company improved infrastructure and built a clinic and a school, which benefitted smallholders in the vicinity of the farm. The number of workers on the farm also led to population growth in nearby settlements and thus the improvement of transport infrastructure. Demand generated by farm workers also boosted the local economy at the central settlement. Despite these positive developments, smallholders are dissatisfied because they had high hopes regarding the potential benefits of the LSLA. By contrast, Nolte and Vaeth (2015) describe one Kenyan case study report where locals felt positively about massive investments in public infrastructure (school, hospital).

Fielding et al. (2016) report on a sugar cane project in Sierra Leone where the investor made great efforts to generate benefits for the local communities. The project included a Farm Development Project, which comprised various measures to develop smallholder farming and livelihoods, e.g. a pilot vegetable garden, farmer field, and life schools teaching better farming practices and various other “life” skills such as health, nutrition, sanitation, and money management, infrastructure, and agricultural services. However, from the point of view of the locals, it is questionable whether these benefits can outweigh the loss of access to natural resources caused by the project.

Furthermore, infrastructure and social service creation may have strong distributional implications: as reported by Vaeth (2013), infrastructure creation may be considerable at settlements near the entry point to the farm. This clearly benefits the local population living in the vicinity of that village, whereas settlements further away do not benefit, although they too experience land loss.

In some cases, infrastructure creation is promised but not undertaken (Hufe and Heuermann 2017). As noted in chapter 4.1.4, there is evidence that some LSLAs face difficulties in the implementation phase or even fail completely. However, considerable cap-



Road construction near Malange, Angola

Photo: J. Böthling/MISEREOR

ital investments in public or social infrastructure are often implemented only if the LSLA investment is itself bearing fruit in terms of the LSLA's profitability and implementation status. Thus, while negative effects, such as land loss, occur immediately after acquisition for locals, positive effects from improved infrastructure materialise at a much later point in time.

Moreover, there are reports that investors see the creation of infrastructure and social services as a replacement for lost livelihoods (German 2014). Although this logic is not confined to LSLAs but also occurs with nature conservation projects (Neudert et al. 2017), it leads to negative follow-up effects as the local population does not receive any effective compensation for lost livelihoods. Teklemariam et al. (2016) describe an extremely negative case of a government programme on "villagisation" carried out in relation to LSLAs in Ethiopia: allegedly, households are dislocated so as to provide them with infrastructure. Meanwhile, the relocation serves to free up land for a future LSLA. The authors report that at the new settlements, none of the promised infrastructure provision takes place and employment creation on LSLA farms is lagging behind expectations.

4.2.5 Spillover of agricultural knowledge and technology

One purported benefit of LSLA farms for the local economy is the spillover of knowledge and technology to smallholder farms in the vicinity of an LSLA (see Figure 7, Box (g), Figure 6, Box (II)). Accordingly, LSLA farms are meant to contribute to the development of the agrarian sector in the host country. However, methodologically consistent studies are rare, the only exception being Deininger and Xia (2016). They used a regular farm survey to assess whether the proximity to large farms established or enlarged between 2012 and 2014 affects production technologies used on smallholder farms within 25 km, 50 km, and 100 km radii. They find that the proximity to an LSLA farm has effects on smallholder farms regarding the adoption of modern production technologies, such as rotation, intercropping, fertiliser and pesticide application. However, crop yields did not differ despite the adoption of modern production technologies. Also, the authors do not find effects on access to markets

and credits, employment, as well as farm size. However, the perceived well-being of smallholders in the vicinity of the LSLA farms is worse than that of smallholders located further away from LSLA farms. Based on these results, Deininger and Xia (2016) conclude that short-term spillover effects occur, but that they are too small to make a significant contribution to the development of the agrarian sector in the host country.

Spillover effects may also depend on the relative difference between the crops grown and the production technologies used by smallholder and LSLA farms. Spillover effects are more likely if the same crop is grown on both farms and if production technologies have the potential to be applied on smallholder farms (Ali et al. 2019). This is more likely for labour-intensive, less mechanised crops (Figure 7, Box ((e), (f), (h))). However, given that in these cases the same crop is grown on small and large farms, market relations between smallholders and larger farms can also be competitive, reducing the marketing potential of smallholder produce (ibid.). A high rate of local employment on the LSLA farms may facilitate transfer by farm workers who are simultaneously smallholder farmers. Inhibiting factors may include a lack of access to input markets and the insufficient financial means of smallholder farms (Deininger and Xia 2016).

Spillovers might be facilitated particularly when smallholders are integrated in outgrower schemes. Mandondo et al. (2014) report higher yields in outgrower schemes in tobacco farming due to the supply of inputs, suggesting that modern production technologies were successfully adopted on smallholder plots.

4.2.6 Changes in local food price

In the literature reviewed for this report, we did not find case study reports on changes in local food prices (Figure 7, Box (s)) as a consequence of LSLAs. Therefore, this subchapter mainly draws on theoretical considerations and model results in the literature reviewed.

As most LSLAs produce food crops or biofuels for the international market (Anseeuw et al. 2012), direct effects on local prices cannot be expected. The amount of goods produced on LSLAs is marginal relative to



Photo: H. Schwarzbach/MISEREOR

Changes in local food prices are not recognizable.

the global market. Consequently, effects on global food prices, including feedback on local prices, are unlikely (Kleemann and Thiele 2015).

Impacts on local food prices can therefore only be expected through a net loss of production for the local market when LSLAs replace smallholder agriculture. Based on yield gap calculations and global data on the amount of land acquired in LSLAs (Land Matrix data), Rulli and D’Odorico (2014) estimate that under current production conditions, the land acquired by LSLAs in Africa could feed 52 to 89 million people. Assuming that all acquired land was used by smallholders, these figures represent the maximum amount of food supply that is lost for domestic economies if all crops produced on LSLA land are exported (worst case scenario). For the authors, ‘[t]hese numbers raise some concerns because LSLAs often occur in countries with high rates of malnourishment and demographic growth’ (ibid.: 7).

Furthermore, impacts on local food prices can be expected through the effects of the LSLA on smallholder production and changed local demand for food products through, for example, in-migration of labour (Figure 7, Box (t)). Smallholders might be positively affected by higher local food prices if they are net food sellers and might be negatively affect-

ed by them if they are net food buyers. Poor smallholder households can be expected to be net food buyers, and their share is likely to rise with land loss through LSLA (Kleemann and Thiele 2015). In a modelling study predicting the impact of an LSLA on local smallholders, Baumgartner et al. (2015) find that the in-migration of labour results in a more dynamic development of the rural economy (Figure 7, Box (v)), including better off-farm opportunities (Figure 7, Box (u)), and that positive income effects for local smallholders can be expected. Better selling opportunities for smallholder production are part of the explanation. This might imply higher food prices, although the authors do not explicitly say so.

4.2.7 Perception of combined local impacts

The social effects of LSLAs reviewed in chapters 4.2.1 to 4.2.6 represent different cause-and-effect relationships (see Figure 7). They can be separated analytically. In reality, however, they lead to a combined change in the livelihoods of local smallholders. While some impacts might be positive (e.g. creation of employment and local infrastructure respectively), negative effects such as land loss have to be taken into account. Some case studies record a combined evalua-

tion of impacts by locals. Furthermore, the authors of the literature reviewed here also evaluate the effects found in their case studies or reviews.

Regarding the evaluation by locals, studies often list positive and negative aspects mentioned by interviewees. While interviewees often see employment creation (Figure 7, Box (p), (u)), the development of social services, infrastructure (Figure 7, Box (r)), and a positive development of the local economy in general (Figure 7, Box (v)) as positive effects, land loss (Figure 7, Box (n)), decreased access to forests and forest resources, and environmental degradation are seen as negative impacts (Acheampong and Campion 2014). Many studies find differentiated impacts across local populations depending on the extent of land loss by the individual household and on the extent to which a household can benefit from opportunities and changes created by the LSLA (e.g. Hofman et al. 2018). This differentiation in local communities is also reflected in the self-assessments of locals (Vaeth 2013; Mandondo et al. 2014).

In terms of the evaluation by authors, a differentiated picture emerges. In a review of 25 case studies explicitly addressing the overall impact of LSLAs, Hufe and Heuermann (2017) find that 19 cases noted overall negative effects, three found no change, and three reported positive effects. Positive influences relate mostly to outgrower schemes (Figure 7, Box (l), Figure 6, Box (IV)), which many authors consider to have the most potential to mitigate the negative impacts of LSLAs. Loss of land (Figure 7, Box (n)) and livelihood assets (Figure 7, Box (w), (x)) are major contributors to negative outcomes and are associated with lower incomes and the deprivation of resources in various ways. Case study authors also mention that impacts on locals differ by stakeholder group and the relation to the LSLA farm.²⁶

4.2.8

Summary on social questions

Many studies evaluate the impact of LSLAs on local smallholders. Methodologically, not all studies work with clear counterfactual scenarios, i.e. a clear baseline regarding how the situation of smallholders has been or would be without the presence of the LSLA.

This lack of counterfactuals makes evaluations by locals or authors less verifiable.

The impact on smallholders clearly depends on the former land use. The notion that LSLAs cultivate mostly idle, marginal lands does not hold true, so considerable effects on the local population are noted. Effects also differ, especially with regard to the labour intensity of crops (Figure 7, Box (f), (h)): overall, labour-intensive crops yield more positive results.

Impacts of LSLAs on local smallholders result from various cause-and-effect relationships (Figure 7). The main findings are:

- Land loss has a severe negative impact on livelihoods, leading to a loss of agricultural production and thus reduced food security.
- Although employment creation clearly benefits locals, its scope and the salaries are mostly not sufficient to compensate for the lost livelihoods from smallholder farming. As most employment is created in the labour-intensive establishment phase of the farm, long-term benefits are projected to be rather low.
- The overall discharge of labour is considerable due to the fact that compared to smallholder agriculture, LSLA farms are highly mechanised thus featuring lower labour requirements.
- Infrastructure creation clearly benefits locals, but the extent to which locals benefit can vary considerably. Infrastructure or social services are no compensation for lost livelihoods.
- Spillovers of agricultural knowledge and technology are observed, but to a lesser extent than expected.

²⁶ Case study authors differentiate stakeholder groups according to their relation with the LSLA as appropriate in their context: e.g. in a case study on tobacco cultivation in Malawi, Mandondo et al. (2014) distinguish land-losing households, smallholder growers, employees, and wood suppliers. In her case study of an oil palm LSLA in Ghana, Vaeth (2013) distinguishes workers, smallholders, and outgrowers.

- Empirical reports on changes in local food prices were not found. From a theoretical point of view, since most LSLA farms export their products, effects may occur through a net reduction of food supply on the local market.

Besides the immediate impacts of land loss or employment creation, various follow-up effects on the livelihood portfolio of smallholder households have to be considered. Most studies noted a differentiated impact on different stakeholder groups in the local communities, differing in accordance with the

extent to which households lost land and the ways in which they could benefit from the opportunities created by the LSLA farm.

The effects of LSLAs might improve if outgrower and contract farming schemes are employed as they avoid land loss (only outgrower schemes) and improve the extent of employment creation and the likelihood of spillovers of knowledge and technology. However, whether positive effects do actually materialise clearly depends on the regulations in the scheme itself. ◀

4.3 Effects on the land rights of local populations, especially commons

Loss of access to land (Figure 7, Box (n)) and natural resources is found to be the most significant negative effect of LSLAs on local people (Oberlack et al. 2016; Hufe and Heuermann 2017). Land loss is often related to unclear land governance and insecure access rights, especially to common land. In the chapter that follows, the role of land governance in the process of land acquisition will be reviewed. This helps explain how and why LSLAs result in loss of access to land and natural resources. Secondly, different authors have noted that a lot of the land acquired for LSLAs falls into the realm of “commons”. This claim will be addressed by clarifying the term “commons” and presenting literature that addresses the extent to which LSLA specifically targets commons. Subsequently, the way in which the loss of access to land and natural resources, especially to commons, directly and indirectly affects the livelihood of local people will be discussed.

4.3.1 Role of land governance in the process of land acquisition

Different authors focus on the role of the law, the role of national and regional authorities in the course of land acquisitions, and on the implications regarding locals' land rights.

The role of the law

In many LSLA host countries, land customarily (de facto) used by locals is de jure property of the gov-

ernment (Alden Wily 2011; Dell'Angelo et al. 2017; Nolte and Vaeth 2015).²⁷ Consequently, the government is able to lease or sell this land. Focusing on Ethiopia, Ghana, Nigeria, and Zambia, Schoneveld (2017) points to three main deficiencies:

- (i) the lack of requirement for consultation and compensation of local land users for land under customary land rights,
- (ii) weak procedures for identifying land (see below), and
- (iii) deficiencies in land and investment law that result in a limited ability to reap the potential development benefits that investments could theoretically deliver.

Focusing on Ghana, Mozambique, Tanzania, and Zambia, German et al. (2013: 14) present a comparative analysis of the legislation protecting customary land rights and governing large-scale land acquisitions, including case studies of actual land acquisition processes in these countries. They argue that, while the legal situation varies, the outcomes are mostly similar, i.e. the loss of customary land rights for a long time up to permanent loss and limited or no compensation. According to their analysis, risks

²⁷ On the history of land policy reforms and “customary” rights protection in Africa and their implication regarding LSLA, see German et al. (2013).

for customary land owners are greatest where land transfer involves:

- ‘(i) the conversion of customary to state land (making the initial land negotiation of the utmost importance in shaping future livelihood outcomes);
- (ii) no upper limit on land size – thus locking up land for outside users irrespective of its economic use and related benefit flows; and
- (iii) leaseholds of long duration in the absence of conditionalities or mechanisms to ensure compliance with agreements reached with the state and with local communities’ (ibid.: 14, similarly Schoneveld 2017: 124, with regard to Ghana, Nigeria, and Zambia).

In addition, German et al. (2013) argue that land identification processes need to address not only suitability but also availability. Similarly, focusing on Ethiopia, Ghana, Nigeria, and Zambia, Schoneveld (2017) argues that customary land has not been properly surveyed and demarcated in any of these countries. Moreover, all countries lack cross-sectoral land-use plans. Furthermore, only Ethiopia featured formal criteria and procedures for restricting LSLAs to areas where risk for land use conflicts is low.

In terms of further requirements, German et al. (2013: 14) suggest that agreement from customary authorities must not be a substitute for obtaining consent from customary land users (see below) and other affected parties, all livelihood resources affected by land acquisition ought to be compensated, and the monitoring functions of government agencies and civil society should be strengthened.

Governments facilitating LSLA

Governments play an important role in facilitating LSLA, e.g. in terms of identifying land they view as suitable and available for investors and in terms of expropriating this land from customary land users and reallocating it to investors (Borras et al. 2013; Alden Wily 2011; Nolte and Vaeth 2015; Oberlack et al. 2016). Consequently, where LSLAs occur, host-country governments are seen to favour such acquisitions (German et al. 2013; Dell’Angelo et al. 2017; Schoneveld 2017). German et al. (2013) point out that the

most important reason for this is the governments’ conviction that LSLA constitutes the most effective pathway to economic development and poverty alleviation. Similarly, Oberlack et al. (2016: 159) point to two ‘discursive practices of international, governmental, and community actors’, i.e. associating LSLA with economic development and conceiving ‘targeted land as marginal, unused, or underused’ (ibid.). Similarly, Schoneveld (2017: 127) highlights ‘high modernist ideologies’ and ‘rationalising narratives on the virtues of private sector capital formation’ (ibid.) as well as ‘discursive strategies to justify enclosing and/or alienating land; for example, for being marginal, degraded, underutilised, unproductive, or subject to encroachment or unsustainable smallholder land uses’ (ibid.: 121, with further references).

Oberlack et al. (2016)²⁸ find evidence that governments face strong incentives to generate revenues and that land rents from LSLA may be one way to do so. Against this background, they stress that addressing the legal deficiencies mentioned above is necessary but not sufficient to protect customary land users. They found that even in cases where the law stipulated material and procedural provisions aiming to protect customary land, these stipulations did not actually guarantee such protection due to widespread deficiencies in the implementation and enforcement of such law. By way of example, Nolte and Vaeth (2015: 79) report that in Kenya, many investments circumvent the tedious and confusing official process and come into the country through high-level personal contacts. With regard to both Ghana and Kenya, the authors distinguish between *de facto* and *de jure* procedures regarding land acquisitions.

Contradicting such arguments documenting legal deficiencies, delivery, and enforcement gaps and a

²⁸ Oberlack et al. (2016) analyse 44 studies covering 66 cases in 21 countries in Africa, Latin America, South-East Asia, and Eastern Europe. Of the 42 studies listed in the appendix of their paper, 28 cover African countries, i.e. Ghana (9 studies), Ethiopia (5 studies), Mozambique (4 studies), Tanzania (3 studies), Zambia (3 studies), Kenya (2 studies), Liberia, Madagascar, Malawi, Mali, Nigeria, Sierra Leone. It should be noted that several studies covered more than one country, so the sum of individual studies given is higher than the total of 28 studies mentioned for Africa.



Photo: F. Kopp/MISEREOR

A valid land certificate in Bevato in the Bongolava region, Madagascar

lack of governmental intent to address these issues and effectively protect customary land users' rights, however, other papers document that the government also often grants less land in concessions than originally applied for by the investor (Baumgartner et al. 2015; Teklemariam et al. 2016; Nolte et al. 2016, see chapter 4.1.1).

The role of traditional leaders

Next to (national and regional) governments, traditional leaders play an important role in land acquisitions by investors (Alden Wily 2011; German et al. 2013; Giger et al. 2019; Acheampong and Campion 2014; Kuusaana 2017; Nolte and Vaeth 2015). This is especially significant in common property regimes because they often assign a specific role to traditional or regional leaders to make decisions over land (German et al. 2013; Nolte and Vaeth 2015). With regard to traditional authorities, German et al. (2013: 15) highlight 'the widespread absence of downward accountability of those with the legal authority to make decisions over customary or village land' (similarly: Nolte and Vaeth 2015; Schoneveld 2017), paralleled by a 'limited ability of customary land users to question the authority of local and customary leaders [...] due to custom, intimidation, coercion by outside actors, or legal illiteracy' (German et al. 2013: 15, similarly Oberlack et al. 2016; Schoneveld 2017).

This provides leeway for these authorities to 'make decisions based on opportunities for personal gain rather than collective interests' (German et al. 2013 15; see also Alden Wily 2011; Acheampong, Campion 2014; Nolte and Vaeth 2015; Oberlack et al. 2016; Kuusaana 2017), a phenomenon often referred to as "elite capture" (Oberlack et al. 2016; German et al. 2013). This lack of downward accountability is expressed in the fact that free, prior informed consent is lacking (e.g. Nolte and Vaeth 2015) and that often locals are not even consulted before property rights are transferred to investors (e.g. *ibid.*; Acheampong and Campion 2014; Nolte and Voget-Kleschin 2014, see below).

More specifically, Oberlack et al. (2016: 160) distinguish local elite capture from what they call "state elite capture". While the former designates elite capture of the kind described in the preceding paragraph, the latter describes a process where state elites, rather than local elites, 'extract disproportionately high shares of benefits from an LSLA or use it to reinforce their control over land and decision-making'. The authors find elite capture (by local and state elites) to be the main factor in adverse livelihood effects in LSLAs > 1,000,000 ha, but find that elite capture is relatively unimportant in comparison to other factors in LSLAs < 1,000 ha.

Consultation and compensation

Consultation and compensation are often seen as two processes that may prevent or counterbalance negative livelihood effects of LSLA. However, with reference to Ethiopia, Ghana, Nigeria, and Zambia, Schoneveld (2017: 124–125, especially table 4) highlights that laws governing customary land (use) rights do not often require that customary land users are consulted or even consent to an LSLA and do not stipulate rights to compensation.

Consultation: regarding consultation, Oberlack et al. (2016) point out that in 14 of the 66 cases reviewed, the participation of affected land users safeguarded against adverse livelihood effects and that in 33 of the same set of cases, negative effects were related to asymmetric participation of affected land users.

Meanwhile, consultations differ substantially regarding how much influence those consulted have and who is consulted at all (Nolte and Voget-Kleschin 2014: 656, Figure 7). Regarding the former issue, Nolte and Voget-Kleschin (2014) distinguish between three levels of influence for locals:

- (i) information as a one-way-process, where the locals are informed about the project;
- (ii) information as a two-way process, where locals can make their opinion heard;
- (iii) participation as interaction, where locals can shape or even veto the project (ibid.).

They present three case studies from Mali. None of these qualified as “participation as interaction”, one qualified as “information as a two-way process” and of the remaining two, locals in one case where only informed about the LSLA in the course of (rather than prior to) project implementation. Similarly, with regard to Ghana, Mozambique, Tanzania, and Zambia, German et al. (2013) highlight that although each legislation provides requirements for consultation, none asks for consent. Also, of the four countries discussed by Schoneveld (2017), only Zambia requires community consultations and none requires community consent. Furthermore, Schoneveld (2017: 127) highlights the ‘highly promotional nature of community consultations’. He views this as one reason why many of the focus group respondents were very sympathetic to LSLA, expecting them to produce well-remunerated

employment and to enhance access to physical infrastructure and urban amenities.

Regarding the latter issue, that is, who is included in consultations, Nolte and Voget-Kleschin (2014) distinguish between consultation processes that

- a. include only local elites,
- b. include those local land users featuring legal property rights,
- c. include all customary land users,
- d. exhibit specific regard for the empowerment of vulnerable groups.

Regarding category (a), Schoneveld (2017) reports that Ghana does not require community consultation at all, but requires consent by a community representative and that Zambia requires community consultation. Consent, however, is not required by the community but only by a community representative. Interestingly, Schoneveld (2017: 127) reports that government actors repeatedly justified lack of community consultation by arguing that ‘transitions to more intensive forms of production could only be achieved by demonstrating not by explaining the virtues of modern agriculture practices’. Furthermore, to put this focus on community representatives into perspective, it should be noted that Schoneveld (2017) also finds recurrent evidence of elite capture in these countries (see above).

Regarding category (d), Oberlack et al. (2016) mention that participation repeatedly fails to acknowledge that bargaining power within and between local communities may differ depending on gender or social status. Then again, Nolte and Voget-Kleschin (2014: 664) question whether intra- and intercommunal inequalities can be so strong that ‘consultation might not be capable of allowing everyone to be heard no matter how careful the consultation is planned.’ They argue that ‘[i]n countries where background injustice prevails, even demanding consultation procedures might not be sufficient to mitigate the negative impacts of land acquisitions on the local population. Rather, such situations call for broader regulatory changes that alleviate these inequities’ (ibid.).

Finally, even where adequate consultation takes place and an agreement is reached, the actual implementation of this agreement on the ground may be under-

mined by poor documentation and/or limited compliance (e.g. Oberlack et al. 2016).

Compensation: compensation is hampered by lack of legal provisions as well as deficiencies in implementation on the ground.

In many countries, the law does not require any compensation for the loss of land under customary (use) rights. By way of example, Nolte and Vaeth (2015) report that in Kenya, compensation only has to be provided for land that is privately titled. Schoneveld (2017: 125, Table 4) notes that of the four countries he discusses (Ethiopia, Nigeria, Ghana, Zambia), only Ethiopia and Nigeria stipulate rights to the compensation of the loss of farmland and the loss of settlement. Meanwhile, such legal requirements do not necessarily translate into actual compensation. Thus, Schoneveld (2017: 123, Table 1) reports compensation for loss of farmland in two of nine cases in Ethiopia, two of nine cases in Ghana, one of 12 cases in Nigeria, and none of five cases in Zambia. This also demonstrates that although Ghana does not stipulate rights to compensation for loss of farmland, its compensation rate was equal to Ethiopia and better than Nigeria.

Compensation for loss of (access to) commons is even less widespread. Schoneveld (2017: 125, Table 4) points out that none of the countries he discusses stipulates such a right and that in none of the cases reviewed any loss of such (access to) commons was actually compensated (*ibid.*: 123, Table 1). Meanwhile, he reports one case where a company promoted the uptake of alternative livelihood activities as a form of compensation by providing 250 beehives to compensate for loss of access to non-timber forest products.

Schoneveld (2017) links the lack of compensation for loss of commons to ‘assumptions that land without houses or permanent crops is “unused” and “unproductive”’ (*ibid.*: 127, similarly German et al. 2013). German et al. (2013: 15, with further references), on the other hand, argue that such assumptions have ‘more often than not been scientifically disproven’. They claim that laws should be changed so as to require full compensation for loss of all livelihood assets, including communal resources (*ibid.*: 14).



Consultations on land rights in Msindo in the Ruvuma region, Tanzania

Similarly – although without distinguishing between compensation for loss of farmland and loss of (access to) commons – in reviewing 66 cases, Oberlack et al. (2016: 164) report only two cases where state-organised compensation contributed to the protection of livelihood assets. Acheampong and Campion (2014) also note that in their case study in Ghana, more than 80% of respondents reported that they were not compensated for a loss of land. Furthermore, they report a respondent claiming that families who already had problems with the chief did not receive compensation.

Where compensation does take place, it may feature procedural deficiencies regarding the timely and adequate presentation of information regarding compensation (Vaeth 2013), the possibility of communities to give their feedback and shape compensation (Vaeth 2013, see the section on consultation above), the timely payment (Vaeth 2013, Nolte and Vaeth 2015), and the adequacy of the amount paid (e.g. Vaeth 2013, Acheampong and Campion 2014). Furthermore, Nolte and Vaeth (2015) note that in their case study in Kenya, although the investor was not officially responsible for compensation, the community still held him responsible.

In terms of promoting factors, Oberlack et al. (2016) note that consultation – but also community-based resistance – can result in more favourable compensation. Also, they report two cases where increasing

competition about land among investors and hence increasing scarcity of suitable land in the target region resulted in favourable compensations (*ibid.*).

The role of tenure security

Finally, different authors have argued that investors tend to select countries with poor tenure security (Anseeuw et al. 2012; Deininger 2013; Nolte et al. 2016) or a combination of high general institutional quality but weak protection of land rights (Giovannetti and Ticci 2016). Meanwhile, Lay and Nolte (2018) confirm this relationship only with regard to smaller-sized LSLAs, i.e. those up to 10,000 ha.

4.3.2 LSLA target commons

Commons scholars typically distinguish between common pool resources and common property (Ostrom et al. 1994). The term “common pool resources” describes resources characterised by two features: non-excludability and subtractability. The former refers to difficulties to exclude people from the use of the resource, while the latter means that part of the resource production can be appropriated for own benefit and that the resource production is finite (Ostrom et al. 1994). This means that in case of a large lake, rangeland, or forest, it is almost impossible to exclude people from using the resource, while it is possible to extract products, e.g. fish, fodder, or forest products, for individual benefit. In contrast, the terms common property, private property, or open access characterise the set of rules for resource use set by locals or some authority (Bromley 1997). “Common property” describes a resource use system, in which a clearly defined user group uses and manages a resource (forest, pasture, or water body) by setting own rules. The term is often conflated or confused with “open access”, where there are no rules for resource use (Ostrom 1990). A common or open access use of a resource often implies that the value of the resource or the productivity per unit of land is rather low compared to land used under a private property regime (Bromley 1991).

In locally crafted or customary resource management regimes in particular, right constellations that are neither completely common nor completely private

as well as overlapping rights to resources (Meinzen-Dick and Mwangi 2009) are often observed. For example, in a shifting cultivation regime, a tract of land may be open access, unless it is claimed for a certain time as private for cropping. A forest used by several adjacent villages might be de facto in common use by villagers due to difficulties of access although no fixed user group is defined. Another layer of complexity is added by legal rules, which may support or contradict actual, de facto land use (North 1990). Often, customary land rights in Africa, especially for commons, are not legally fixed or are completely unknown to non-locals (including scientists) and administrations.

Different authors acknowledge that the appropriation of commons by private interests is not a new phenomenon. Indeed, historically, it can be traced back to the enclosure movement in fifteenth-century England but also features a long history in Africa (Dell’Angelo et al. 2017, Giger et al. 2019). Today, much of the land traditionally managed as common property is already subject to ownership of private individuals or the state (*ibid.*). Consequently, different authors discuss the extent to which the current appropriation of commons in the course of LSLA constitutes a further step in a continuous process or rather exhibits distinct characteristic (Alden Wily 2012; White et al. 2012; Cotula 2013). In addition, beyond the LSLA debate, there is a discussion as to how customary land rights in Africa can be legally secured without excluding seasonal or minor rights holders (see Chimhowu 2019 for a recent review and further references).

In the LSLA debate, the term “commons” refers mostly to all kinds of resource use regimes that are not private and legally secured. This is due to limited knowledge of actual land uses and the fact that customary – i.e. traditional – rules often regulate land use in areas that are legally state or public land (see above). Consequently, Dell’Angelo et al. (2017: 3, see also Figure 7) define what they call “commons grabbing” in terms of three criteria. Firstly, the acquisition ‘entails a transition from subsistence farming and/or small-scale uses of natural resources to large-scale commercial agriculture and or speculative investment’ (*ibid.*). Secondly, the acquisition takes place in the context of ‘unbalanced power dynamics between investor and prior land user, which are often manifested through

different levels of coercion'.²⁹ The third criterion entails that the land in question is subject to multiple access or multiple property rights (see also Giger et al. 2019), such as common-property regimes, legal pluralism, and public land. While the first two criteria match the definition of LSLA as used in this report, the third criterion expresses the broad understanding of the term “commons”. Dell’Angelo et al. (2017) review 56 cases of LSLA. Of these, 44 met their criteria and were, therefore, characterised by the authors as “commons grabbing” (ibid.: 4).

Unfortunately, the Land Matrix data does not directly cover the topic of common property regimes (Giger et al. 2019; Dell’Angelo et al. 2017). However, different authors have stressed that LSLA target commons or so-called public land to a significant degree (Schutter 2011) or even in the majority of cases (Oberlack et al. 2016, with reference to SSA: Alden Wily 2011). Similarly, in a meta-analysis covering 56 cases in 27 countries, Dell’Angelo et al. (2017: 4) find that LSLA focus on land subject to common property regimes in 55% of the cases and on land featuring the coexistence of different kinds of property regimes (i.e. legal pluralism) in 13% of the cases and conclude that ‘LSLAs preferentially target common land and land with multiple access and use claims’ (ibid.: 8).

4.3.3

How loss of access to (common) land and natural resources affects livelihoods

Direct effects

The effects that loss of (access to) land (Figure 7, Box (n)) has on local people depend on how the land was used before the LSLA. If the land was used for agriculture (private land), grazing, and/or hunting and gathering (commons), local people lose a source of livelihood (Figure 7, Box (w), (x)). Consequently, in reviewing 38 case studies from Ethiopia, Ghana, Nigeria, and Zambia, Schoneveld (2017) notes that, in cases where locals had lost access to farmland, they were often unable to gain access to new farmlands of similar extent and quality, and, as a result, their agricultural output decreased. In so far as forests used as a source of non-timber forest products were destroyed, locals’ cash income from these sources was

reduced. Such cash income often plays an important role in keeping consumption levels stable and predictable. Accordingly, the loss of such income may result in less secure livelihoods. Finally, Schoneveld (2017) reports case studies from Ethiopia where LSLA entailed pastureland. In these cases, locals were not able to gain access to other available pasture. This led them to reduce herd sizes and to access pasture previously used by other ethnic groups, which acted as a source of violent conflict.

Oberlack et al. (2016: 162) point out that the net livelihood impact of land loss depends on the land users’ opportunity costs, which are related to ‘the degree to which livelihoods depend on targeted land’ and ‘the scarcity of land relative to existing land uses’. Furthermore, they find that adverse livelihood outcomes are more frequent in cases where the land acquired was or entailed common property.

The loss of (access to) previous commons can also affect network structures, such as minor roads and paths, as well as access to water sources but also sacred sites (see Vaeth 2013).³⁰ Finally, commons also feature option value, i.e. common land might be used as a settlement area or arable land in the future, e.g. as a result of population growth or in-migration or in shifting cultivation systems. Schoneveld et al. (2011) report that on a jatropha LSLA in Ghana, the common land used in a shifting cultivation system reduced significantly, leading households to shorten fallow periods or resort to permanent agriculture. Thus, for sustainable use in a shifting cultivation system, all areas currently used and fallow fields allowing for a sufficient time of fallow period are necessary and should be counted/assessed as part of the cultivation area.

In terms of who is affected to what degree, Oya (2013) warns against referring to local people as if they were a homogenous group. Oberlack et al. (2016: 161) point out that adverse effects of LSLA can generally have a disproportionate effect on certain

²⁹ On coercion, see chapter 4.3.3, increase of conflict.

³⁰ Schoneveld (2017) notes that four out of ten Ethiopian case studies he reviewed targeted cultural UNESCO world heritage sites.

subgroups such as ‘[w]omen, migrants living in the LSLA target region, and people disadvantaged due to prior poverty or low skills’. With a focus on commons, Alden Wily (2011) argues that poor and marginalised groups (such as indigenous, women, immigrants) are disproportionately affected by the loss of commons, because of their greater dependence on communal assets. Similarly, Giger et al. (2019: 274) argue that LSLA can exacerbate existing power imbalances in traditional systems. Oberlack et al. (2016: 159) designate such processes as “selective marginalisation”. In addition to depriving users of access to land and other natural resources, selective marginalisation reinforces existing inequalities and increases conflict (*ibid.*). Furthermore, it can deepen poverty through maladaptive livelihood strategies. As such, Oberlack et al. (2016: 160) mention farming on less fertile land and outmigration, and Schoneveld et al. (2010) and Acheampong and Champion (2014) mention increased cropping intensity through shorter or no fallow periods. Maladaptive farming strategies can in turn result in negative environmental effects (see below).

Woodhouse (2012) discusses another direct effect, namely how LSLAs impact on water resources. According to him, ‘the main impacts of land deals may be felt via their effects on water resources’ (*ibid.*: 219). These can be positive if investors provide infrastructure for the storage and distribution of water and allow small-scale producers to draw on these new sources of water at times when they face water scarcity. They can be negative when the use of (irrigation) water by an LSLA farm reduces smallholders’ ability to use water for their agriculture. According to Woodhouse (2012), the situation of customary water use by smallholders ‘in many respects [...] parallels the situation of non-registered customary land rights [...] and highlights the importance of rendering existing water use (and users) more visible within statutory legal frameworks.’ (*ibid.*: 218) Meanwhile, he acknowledges that doing so will probably face the same hurdles as strengthening locals’ land rights.

Indirect effects

Beyond direct effects, several authors discuss the indirect effects of LSLAs that are specific to or more pronounced with regard to the appropriation of commons.

Increase of conflicts: conflicts can arise between local communities on the one hand and (government) officials and investors on the other, or between and within local communities.

Regarding the former, Oberlack et al. (2016) point out that LSLAs often occur in regions that already have a history of violent conflict and resettlement and that this may effectuate acquisition processes that, among other factors, lack participation. They find that in 21 of the 66 cases they reviewed, the enforcement of land right transfers and land users’ resistance led to an increase in conflicts. Furthermore, in only two of the 66 cases, planned or spontaneous dispute resolution mechanisms contributed to the safeguarding or enhancement of livelihood sustainability.

Interestingly, Schoneveld (2017: 127) notes that in Ghana and Zambia, local government and chiefs suppressed collective action against LSLAs by claiming that conflict would drive investors away, resulting in communities failing to gain (exaggerated) benefits such as well-remunerated employment and enhanced access to physical infrastructure such as schools, hospitals, electricity, and clean water.

The latter process – i.e. an increase in conflicts between and within local communities (both intra- and intercommunity tensions) – can occur if LSLAs’ beneficial and/or adverse livelihood effects are distributed in a way that reinforces existing inequalities (see above). As mentioned above, Schoneveld (2017) refers to cases in Ethiopia where LSLAs resulted in the loss of pasture, causing previous users to start grazing their livestock on pasture used by other ethnic groups, which also resulted in violent conflict. Furthermore, he mentions cases in Ethiopia where divided interests within communities disabled effective collective action against the investment and where chiefs were able to ward off such collective action by allying with influential subgroups of the local community.

Obviously, different kinds of conflicts can be mixed. By way of example, in a case study in Ethiopia, Baumgartner et al. (2015) link the outbreak of violent conflict on the investment site to the fact that the investment increased inequalities between and within socio-ethnic groups.

With a specific focus on commons, Dell'Angelo et al. (2017: 5) designate coercion as one of the three criteria they use to define “commons grabbing”. They understand coercion as ‘a system of practices and mechanisms that directly or indirectly influence through varying degrees of use of force, the possibility of the local land users to keep control of their land and natural resources.’ (Dell'Angelo et al. 2017:4) They identified three categories of coercion:

- (i) ‘coercion without manifested conflicts when the acquisition happened taking advantage of a clear power imbalance [...] but the acquisition did not lead to manifested conflicts’ (ibid.),
- (ii) coercion with non-violent conflict, ‘defined as explicit confrontation between the different actors involved in the acquisition, ranging from protest to physical but not violent resistance’ (ibid.), and
- (iii) coercion with violent conflict ‘involving violent confrontation or oppression that resulted in violent physical actions.’ (ibid.)

They find coercion without conflict in 34%, coercion with non-violent conflict in 25%, and coercion with violent conflict in 23% of their cases respectively.³¹ In analysing the relationship between coercion and property regimes prior to acquisition, they find that in 70% of the cases of conflict with violence and 50% of the cases of conflict without violence, the regime before acquisition was a common property regime.

Negative environmental effects: LSLAs are regularly linked to negative environmental effects. Empirical evidence is, however, scarce. Oberlack et al. (2016) find that in ten of the 66 case studies they reviewed, negative environmental effects were reported.

Meanwhile, it is known that the expansion of plantation agriculture has historically been a leading driver of deforestation and environmental degradation. Different authors refer to this insight to reason that LSLAs are prone to having negative environmental effects (e.g. Schoneveld 2017, with further references; Voget-Kleschin 2014). Such negative effects are especially likely if LSLAs target areas of high ecological significance. Reviewing 38 case studies in Ghana, Zambia, Ethiopia, and Nigeria, Schoneveld (2017) re-

ports that in Ethiopia and Nigeria in particular, LSLAs targeted primary tropical forests, vulnerable wetland areas, nationally designated protected areas, and UNESCO world heritage sites.

Giger et al. (2019) specifically refer to environmental effects resulting from the acquisition of commons. According to them, this may result in negative externalities on common pool resources, such as the overuse and degradation of those lands that remain accessible for locals (see also Oberlack et al. 2016), the abstraction of water from water bodies, and the contamination of water. The latter two aspects can also affect livelihoods in downstream areas further away from the acquired land.

Schoneveld (2017) further reports that all four countries on which he focuses (i.e. Ethiopia, Ghana, Nigeria, and Zambia) feature progressive environmental laws, having adopted the international best practice of conducting an Environmental and Social Impact Assessment (ESIA). Meanwhile, in all four countries, environmental protection agencies (EPA) were found to be understaffed and underfunded to a degree that prevented them from monitoring whether projects had undertaken an ESIA or complied with permit conditions relating to the environment. Furthermore, other relevant sectoral agencies and ministries with more information failed to liaise with or support the EPAs or even purposefully kept them uninformed. Meanwhile, where they were informed, environmental authorities were reluctant to implicate fellow officials because of potential negative career implications and consequently often did not address violations (ibid.).

4.3.4

Summary on the effects on land rights of local populations

Loss of access to land and natural resources is found to be the **most important negative effect of LSLAs on local people**. Land loss is often related to unclear land governance and insecure access rights, especially to

³¹ The remaining 18% of cases reviewed did not entail information regarding coercion dynamics (ibid.).



Photo: F. Kopp/MISEREOR

Like here in Madagascar, the struggle for land rights is being waged in many African countries.

common land. **LSLAs target commons** or so-called public land **to a significant degree.**

With regard to **the role of land governance in the process of land acquisition**, four issues are of importance:

- **The role of the law:** in many LSLA host countries, land customarily (*de facto*) used by locals is *de jure* property of the government. Hence, the government is able to lease or sell this land. Main legal deficiencies include the lack of a requirement for consultation and compensation of local land users and weak procedures for identifying available land.
- **Governments facilitating LSLA:** governments play an important role in facilitating LSLA, e.g. in terms of identifying land they view as suitable and available for investors and in terms of appropriating this land from customary land users and reallocating it to investors. Addressing the legal deficiencies mentioned above is necessary but not sufficient to protect customary land users due to widespread deficiencies in implementation and enforcement of such law. Meanwhile, other authors document that governments also often grant less land in concessions than originally applied for by the investors.
- **The role of traditional leaders:** traditional leaders play an important role in land acquisitions, espe-

cially in common property regimes. Elite capture, that is, traditional leaders basing decisions on opportunities for personal gain rather than local individuals' interest, is mentioned repeatedly.

- **Consultation and compensation:** consultation and compensation are often seen as two processes that may prevent or counterbalance negative livelihood effects of LSLA. However, laws governing customary land (use) rights do often not require customary land users to be consulted or even to consent to an LSLA and do not stipulate rights to compensation. Even where consultation and/or compensation are stipulated, there are deficiencies in implementation on the ground.

The **effects that loss of (access to) land has on local people** depend on how the land was used before the LSLA. If the land was used for agriculture, grazing, and/or hunting and gathering, local people lose a source of livelihood. Poor and marginalised groups (such as indigenous people, women, and immigrants) are often disproportionately affected by the loss of commons because of their greater dependence on communal assets. Beyond these direct effects, indirect effects of LSLA, such as an increase in conflicts and negative environmental effects are specific to or more pronounced with regard to the appropriation of commons. ◀



5

Summary

➤ **The aim of this report was to review existing knowledge on the microeconomic and social effects of LSLAs in Sub-Saharan Africa (SSA). It focused on two main topics: (1) comparative evidence on the microeconomic results of smallholder farms vs. LSLA farms and (2) the social effects of LSLAs on affected smallholders, i.e. the effects on local livelihoods, the rural economy, and land rights.**

To ensure that the reviewed knowledge is based on factual evidence, the focus was mainly on studies that report primary data and meet scientific standards, i.e. a thorough documentation of data collection and analysis, and neutral, traceable presentation of evidence.

Figure 7 summarises the main possible chain of effects discussed in this report. The blue boxes describe microeconomic topics and the orange boxes indicate causal relations through which LSLAs affect the food security (Figure 7, Box (y)) and well-being of local people (Figure 7, Box (z)). The report shows that some of these causal relations are more likely to actually play out on the ground than others. Generally, whether certain effects occur at all and how distinct they are depends on the specific conditions of each single investment.

The main findings on microeconomic questions and social impacts of LSLA are:

Microeconomic assessments of LSLA farms and comparisons with smallholder farms are scarce in the literature. The authors of this report therefore also relied on data from the comparison of small and large farms, the latter being not necessarily LSLA farms.

The analysis showed that **smallholder farms and LSLA farms differ greatly in terms of factor use and production goals**. While smallholder farms are smaller in size, labour intensive, and face huge capital constraints, LSLA farms encompass much larger areas and are capital intensive and labour extensive. Similarly, LSLA farms have much higher levels of mechanisation and work with higher rates of modern in-

put use. However, to which extent capital-intensive, mechanised production is possible also depends on the crop type. Typically, plantation crops have less potential for mechanised production.

Despite the common argument that LSLA farms might help to close the yield gap, there is little evidence that large farms achieve higher yields than smallholders. The **inverse relationship between farm size and productivity**, which is well documented in agrarian development literature, even shows that under the same agro-ecological conditions, larger farms generally achieve lower land productivity than smaller farms.

Given that larger farms work with higher modern input use but achieve lower yields than smallholders, the economic performance of large farms is likely to be lower than for smallholders. Even though it is too early to assess the profitability of LSLA farms to a full extent, preliminary evidence indicates that the **economic viability of LSLA farming operations is in parts likely to be low** or even questionable.

Many studies evaluate the **social effects of LSLAs on smallholders**. Methodologically, not all studies work with clear counterfactual scenarios, i.e. a clear baseline regarding how the situation of smallholders has been or would be without the presence of the LSLA. This lack of counterfactuals makes evaluations by locals or authors less verifiable.

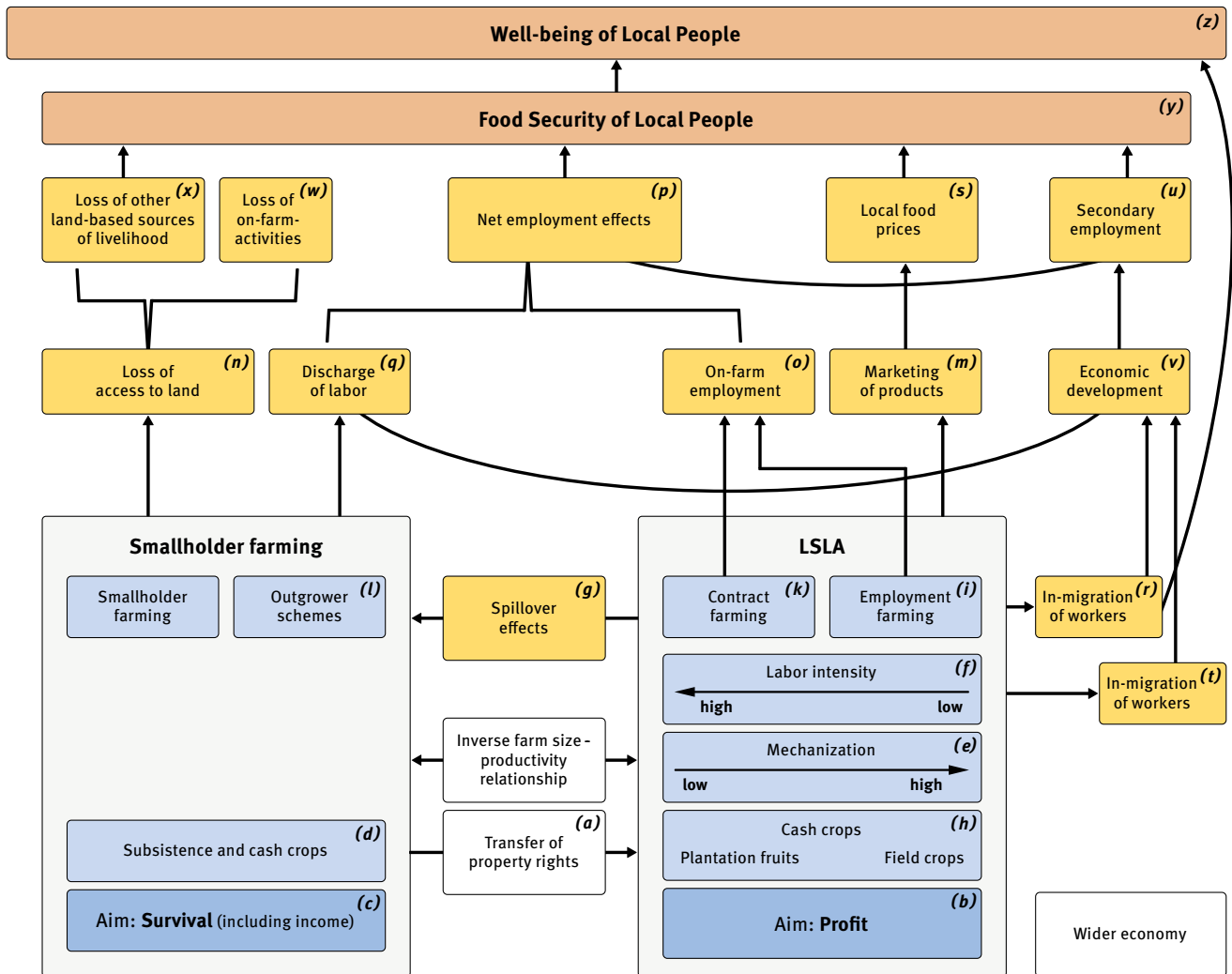
Impacts of LSLAs on local smallholders are transmitted through various cause-and-effect relationships:

- **Land loss** has a severe negative impact on livelihoods, leading to a loss of agricultural production and other land-based sources of livelihood and therefore reduces food security.
- Though **employment creation** clearly benefits locals, the scope of employment and salaries were mostly not sufficient to compensate for the lost livelihoods from smallholder farming.

Figure 7

Overview of the effects of LSLA on food security and well-being of the local population

(Deininger et al. 2011: 39)



Notes:

- livelihood effects for locals*
- direct effects;*
- microeconomic aspects/relations/logic*

The horizontal axis represents different aspects/parts of the economy, the vertical axis (bottom to top) depicts cause and effect relationships related to LSLA.

- Due to lower labour intensities on LSLA farms compared to smallholder agriculture, the overall **discharge of labour** is considerable.
- **Infrastructure creation** clearly benefits locals, but again, the extent to which locals benefit can vary considerably.
- **Spillovers of agricultural knowledge and technology** are observed, but to a lesser extent than expected.
- Empirical studies on **changes in local food prices** related to LSLAs were not found.

Most studies found differentiated impact on different stakeholder groups in the local communities, varying according to the extent that households lost land and that they can benefit from the opportunities created by the LSLA farm.

Microeconomic performance and social effects of LSLAs improve if **outgrower and contract farming schemes** are employed: yields improve, land loss is avoided (in outgrower schemes), the extent of employment creation is higher and spillovers of knowledge and technology are more likely. However, whether positive effects materialise clearly depends on the regulations in the scheme itself.

Land loss is often related to **unclear land governance and insecure access rights**, that is, differences between *de facto* (i.e. customary) and *de jure* land rights.

- Both **governments and local leaders** (official and traditional) play an important role in facilitating LSLA and there are recurrent reports regarding both state and elite capture.
- **Consultation** and compensation may prevent negative livelihood effects of LSLA. However, legal provisions for consultation are often lacking, and where they do exist, they are not inclusive, and agreements reached may not be implemented.

- In many countries, compensation for loss of land – especially loss of commons – is not legally required. Even where there are corresponding legal stipulations, compensation does not necessarily happen or is often untimely and inadequate.

A significant part of LSLA targets common land. Loss of access to common land and natural resources directly results in the loss of livelihood. Again and again, **groups that are already marginalised are disproportionately affected.** Consequently, LSLAs increase existing inequalities. Indirect effects include an increase in conflicts between local communities on the one hand and (government) officials and investors on the other, or between and within local communities. LSLAs can also have **negative environmental effects**, especially if LSLAs target areas of high ecological significance. <



6

Conclusion

➤ **As stated in the introduction to this report, proponents of LSLAs argue that in the underdeveloped agrarian sector in countries of the Global South, investments are urgently needed to close yield gaps and satisfy the worldwide demand for agricultural commodities. On the other hand, this report shows that evidence that large farms achieve higher yields than smallholders is scarce. Furthermore, proponents frame LSLA as a development opportunity. This report shows that LSLAs can have positive and negative impacts on locals. Positive impacts include (limited) employment creation, infrastructure creation, and (limited) spillover effects. Accordingly, in the vicinity of LSLA farms, some social groups may benefit from employment opportunities and infrastructural development. Negative impacts include the loss of access to land and a significant discharge of labour. The report shows that the character and magnitude of effects strongly depends on the land use prior to LSLA (extent of land use, type of farming system or land use) and the investment itself (crops, mechanisation level, business model).**

According to the proponents of LSLAs, labour discharge and the inflow of capital will/can create numerous multiplier effects resulting in productivity increases, economic growth, and development in all sectors of the economy. A lot hinges on this premise. If the discharge of labour was absorbed by a growing labour market, it could indeed balance out the negative effects of the loss of access to land. However, LSLA investments are a relatively new phenomenon. As the report shows, many investments have not yet achieved their full extent. It is therefore questionable whether these positive development effects can be realised in practice.

In contrast to the proponents of LSLAs, NGOs and the media as well as critical scientists argue that LSLAs typically replace smallholder agriculture, resulting in negative social consequences. The report shows that these negative social consequences do take place, especially as a result of the lost access to land and natural resources. Furthermore, it shows that negative consequences disproportionately affect groups that are already marginalised, often resulting in stronger social differentiation than before.

Consequently, whether LSLAs yield predominantly positive or negative consequences for local communities strongly depends on the conditions of the investment. Crucial aspects include respecting the land rights of local communities, including rights relating to common land, a verification of the project viability based on local information, and business models emphasising participation of locals, e.g. in outgrower and contract farming schemes. Furthermore, there is some evidence that negative effects of land loss disproportionately affect already marginalised groups and that where employment is created, this will benefit the young, the physically strong, and the better educated and will not, therefore, compensate those households most affected by land loss unless special attention is paid. ◀



7

Political Recommendations by MISEREOR

➤ **Investment in agriculture is needed. But in which system should investments be made? The report shows that despite large capital endowments, large-scale land acquisitions (LSLAs) might not perform better than small-scale agriculture. In many agrarian-based countries in the Global South, small-scale agriculture generates income and livelihoods for many. Despite rising urbanisation, the absolute number of rural populations in Sub-Saharan Africa will increase significantly even beyond 2050. In many countries, employment creation in sectors other than agriculture lags far behind. Rural transformation by LSLA tends to favour mechanisation, creating few permanent jobs. As a consequence, LSLA is likely to release a lot of unskilled labour, a trend which will contribute to an increasing number of informal workers in the cities. Agricultural modernisation based on LSLA therefore runs the risk of aggravating existing social imbalances and causing social disruption. Such a strategy seems to systematically neglect small-scale farmers' potentials, a group still lacking enabling framework conditions and appropriate support.**

Based on the study results and in order to improve the situation of African small-scale farmers, MISEREOR recommends the following:

➤ **Recommendation A**

Small-scale farmer-friendly framework conditions must:

- secure rights and access to/control over land and water;
- recognise small-scale family farming as a viable structural model for the development of the agricultural sector;
- enforce regional development planning to identify rural development opportunities according to agro-ecological zone.

➤ **Recommendation B**

Small-scale farmer-friendly policies must:

- promote labour-intensive means of small-scale agricultural intensification;
- promote technologies that enables decentralised value addition of agricultural raw products.

➤ **Recommendation C**

Rural services must:

- respond to small-scale farmers' potentials and constraints;
- ensure access to investment support for agricultural enterprise development (land purchase, storage facilities, small machinery, etc.);
- ensure access to credit with appropriate low interest rates for short-term agricultural investments (labour, seeds and planting materials, especially trees, etc.);
- provide efficient and effective extension services that enhance economically and environmentally sustainable smallholder farm production.

➤ **Recommendation D**

It is highly recommended that the livelihoods of small-scale farmers are secured. To this end, the following aspects must also be considered:

- secured rights and access to/control over own seeds;
- the regulation of agricultural imports;
- the provision of preventive mass vaccinations for ruminants and poultry by government veterinarian agencies as well as the performance of accessible and affordable private veterinary services. ◀

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