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The local impacts of large-scale land acquisitions: a review of case study evidence from Sub-Saharan Africa

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ABSTRACT

Large-scale land acquisitions (LSLAs) are controversially discussed with respect to their local impacts. On the one hand, they are regarded as an opportunity for employment creation and a transfer of knowledge and technology, which enhances productivity and output in agriculture. On the other hand, they are said to impair food security and to foster land conflicts and environmental degradation. Despite the existence of numerous case studies, systematic evidence on the impact of LSLAs on local communities is not available. In this paper we review the existing literature in order to provide a summary of the characteristics of LSLAs and of the impact they have on local livelihoods. We find that while positive effects arise through employment creation and the provision of public goods and services, these benefits are offset by inadequate compensation, land conflicts, and environmental degradation. Overall, most case studies find a negative impact of LSLAs on local livelihoods.

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Rural poverty and the ‘global land rush’ in Sub-Saharan Africa

Despite a decreasing tendency, approximately 41% of the population in Sub-Saharan Africa (SSA) continue to live on less than \$1.25 a day. Today, SSA is the only region that has failed to meet the first Millennium Development Goal of cutting the incidence of extreme poverty to half of its 1990 level (UNDESA 2015). The prevalence of extreme poverty in SSA is close-knit with the (non-) development of its rural areas. More than 60% of the rural population are extremely poor. Out of the 30 states which the International Fund for Agricultural Development (IFAD) considers to be agriculture dependent and at the same time characterised by high rates of hunger, only three are not located in SSA (IFAD 2010).

While the occurrence of undernourishment exacerbated in the 2007/2008 food crisis (UNDESA 2012), this period also saw the rise of a ‘global land rush’ (Arezki, Deininger, and Selod 2012). This sharp surge in demand for arable land transforms acreage into a scarce global resource. Underlying this trend are strategic concerns of several countries regarding their food and energy security. Some countries, most notably from the Arabic peninsula, are affected by adverse climatic conditions, which leads them to seek

autarky from increasingly volatile food markets by assuring direct supply from external investment estates (Woertz et al. 2008). Others, like China, are not so much affected by internal supply constraints but rather face a rapid expansion of demand for food commodities due to a growing population and an up-scaling of consumption habits (World Bank 2011). Yet demand for acreage is not only driven by food commodities. The rapid development of the biofuel sector, which is fostered by government initiatives to promote renewable energies, increases the pressure on international land markets (UNCTAD 2009). Following these long-term trends, land has become increasingly attractive as a speculative asset for private investors, which pushes up demand even further (Blumenthal 2009).

The majority of such large-scale land acquisitions (LSLAs) are directed at land abundant countries with a high agricultural yield gap, often characterised by an exploitation of less than 25% of the respective productive potential (Deininger 2011). According to the Land Matrix, a database established by a group of research institutions that systematically records information on LSLAs in low- and middle-income countries, roughly half of all large-scale land deals registered since the year 2000 have taken place in SSA, attaining a cumulative size of 47 million hectares. Given the prevalence of hunger in this region and the strong dependence on agricultural activities in rural areas, LSLAs have sparked considerable controversy with respect to their impact on the livelihood of local communities.

One of the most prominent concerns is an increase in competition for arable land. With customary tenure often prevailing over formal titling, communal lands are tagged as idle although they are used as grazing and gathering grounds (Borras, Fig, and Suárez 2011; White et al. 2012). As a consequence, LSLAs are reproached with raising tenure insecurity for those groups whose income is intricately tied to the use of communal lands (Livingstone and Ruhindi 2011) and for increasing the risk of land conflict. Furthermore, export-oriented investment projects deteriorate food security in regions already affected by hunger (Anseeuw et al. 2012), while capital intensive production for the domestic market renders local smallholders uncompetitive (de Schutter 2011). In addition, high-intensity agriculture contributes to environmental damage, for example, by depletion and over-fertilisation.

On the other hand, given the low productivity of the agricultural sector, some warn of romanticising smallholder farming and highlight large-scale land investments as the only viable way towards raising agricultural productivity and output in SSA (Collier 2008). Local communities are expected to profit from LSLAs through the provision of public goods and services, job creation, access to technology, and investment into infrastructure and social services (World Bank 2011).

Despite the significance of this debate for the design and adjustment of development policies, systematic evidence on the local impact of LSLAs does not exist. While numerous case studies examine the consequences of single projects, no attempt has so far been made to summarise the current state of knowledge on the impact of LSLAs on the livelihoods of local communities. The aim of this paper is to fill this gap by reviewing the results from 60 case studies (see Table 1) on 146 LSLA projects in 22 countries in SSA.

The next section explains the criteria for the choice of the case studies, provides an overview of the key characteristics of LSLAs in SSA, and outlines how inference is drawn from the case studies. In the third section, we present and discuss the evidence on the

Table 1. List of case studies.

Alemu (2011)	Daniel (2011)	Kay and Franco (2012)	Portale (2012)
Anseeuw et al. (2012)	de Schutter (2011)	Lavers (2011)	Richardson (2010)
Arale-Nunow (2011)	Deng et al. (2010)	Lavers (2012a)	Schoneveld, German, and Nutakor (2011)
Arora, Caniëls, and Romijn (2010)	Deng (2011)	Lavers (2012b)	Shete (2011)
Balkema and Romijn (2011)	Diallo and Mushinzimana (2009)	Locher (2011)	Smaller and Mann (2009)
Benjaminsen et al. (2011)	Fairbairn (2011)	Mabikke (2011)	Sulle and Nelson (2009)
Boamah (2011)	FIAN (2010)	Makki and Geisler (2011)	Stebek (2011)
Borras, Fig, and Suárez (2011)	Friends of the Earth Europe (2010)	Makutsa (2010)	Tienhaara and Smith (2011)
Bräutigam and Tang (2009)	German, Schoneveld, and Gumbo (2011)	Malik (2011)	Tsikata and Yaro (2011)
Brüntrup, Herrmann, and Gaebler (2009)	Graham et al. (2011)	Mann (2010)	Väth and Kirk (2011)
BMZ (2009)	Hall (2010)	Martiniello (2010)	Veldman and Lankhorst (2011)
Cotula et al. (2009)	Hall (2011)	Milimo et al. (2011)	Vermeulen and Cotula (2010a)
Cotula (2011)	Haywood et al. (2008)	Mujere and Dombo (2011)	Vermeulen and Cotula (2010b)
Da Via (2011)	Huggins (2011)	Mutopo (2011)	Wily (2011)
Daniel and Mittal (2010)	Kaarhus et al. (2010)	Nonfodji (2011)	World Bank (2011)

local impacts of LSLAs along the following dimensions: compensation for land use, land conflicts, food security, environmental effects, provision of public goods and social services, job creation, and technology transfer. Based on these findings we discuss the overall effects that LSLAs have on the livelihood of local communities in the fourth section. The fifth section concludes.

Choice of case studies, project characteristics, and inference

Choice of case studies

The literature basis of this survey consists of all case studies which examine the impact of LSLAs on local communities in SSA. Given the variance in quality, focus and scope of the available case studies, we have set the following requirements for a study to be included in this survey. Firstly, we only draw on scientific work. In order to qualify as such, a study has to be either published in a scientific journal or, in case of books and working papers, at least one author has to be clearly associated with a scientific institution. Working papers are only included if there is no indication for the results to be of preliminary nature. Secondly, the projects examined in the case studies have to be clearly identifiable so that we can compare and verify the results across different case studies. Thirdly, we exclude all case studies that explicitly refer to cancelled or planned projects. Doing so we account for recent evidence which suggests that the occurrence of LSLAs and their consequences have been overestimated because many announced schemes were not implemented or rolled back (Cotula et al. 2014). Fourthly, as we aim to summarise the current state of knowledge rather than the historical debate of LSLAs, we have restricted the period of observation to the years 2008–2013. In addition, we only draw on studies

that are consistent with the following concept of 'large-scale land acquisition'. The term *acquisition* as it is used here is not congruent with *purchase*. We will adhere to the common convention in the literature for the term *acquisition* to comprise land purchases and long-term leasing contracts, with the latter category being the most frequent form of LSLAs (Anseeuw et al. 2012). For a land acquisition to be considered *large-scale*, a lower bound of 1000 ha is applied. This standard was suggested by the pioneering work of Cotula et al. (2009). In contrast to the Land Matrix we do not confine LSLAs to foreign investors. Cotula et al. (2009) provide evidence for a significant involvement of domestic investors in land deals as well as for difficulties in disentangling the ownership structure of the investing parties. In addition, the national origin of the investor should be of subordinate importance for an assessment of the local impact of LSLAs. Lastly, we follow the Land Matrix in focussing on agricultural projects, including food production, pastoralist activities, forestry, and production of bioenergy. We do so for two reasons. First, investment into agriculture is widely regarded as a particularly viable strategy for poverty alleviation and economic development in rural areas (e.g. Christiaensen, Demery, and Kuhl 2011). In this paper we are explicitly concerned with the question whether this view can be substantiated for LSLAs as one specific and increasingly important type of agricultural investment. Secondly, by excluding investments into extractive industries we aim to enhance comparability across cases. As one key structural difference, the macroeconomic consequences are much more important for mining projects than for agriculture due to their potentially large impact on exchange rates (e.g. Collier and Gideris 2007 on the resource curse) and national tax revenues. The focus on *local* impacts of LSLAs, which we apply in this paper, is not well suited to understand these types of consequences properly. In order to avoid a partial analysis with potentially biased conclusions we therefore leave out mining projects altogether.

Project characteristics

These restrictions leave 6 case studies on 146 investments projects in 22 countries. Almost two thirds of these projects are located in Eastern Africa (see Figure 1), indicating the dominating interest of investors in this particular region. Figure 2 displays the origin of foreign investors. For 35 projects, the investor is either domestic or unknown. Among the remaining 111 projects, investors from the U.K. are the most prominent group, while with India, South Africa, and China the next three ranks are occupied by BRICS-countries. Figure 3 displays the distribution of the main crop cultivated in the projects. By far the most important crop is Jatropha, a flowering plant used for the production of biofuels, with a share of about 20%, followed by sugarcane (13%). In total, the yields from 57 projects can be used to produce biofuels and/or bioenergy, indicating the significance of this type of investment in SSA (in light of the recent and growing debate on this issue, we summarise some of the evidence on the local impacts of biofuel projects in the Appendix). With only 14 projects producing exclusively for the export sector and only five producing only for the domestic market, most of the production caters both the domestic and the international market. The minimum size of a piece of land is by definition 1000 ha. The largest investment project covers an area of roughly 840,000 ha. The fact that the average area (65,000 ha) of a project lies far above the median (23,000 ha) indicates that a small number of large-scale projects dominate the distribution (Figure 4).

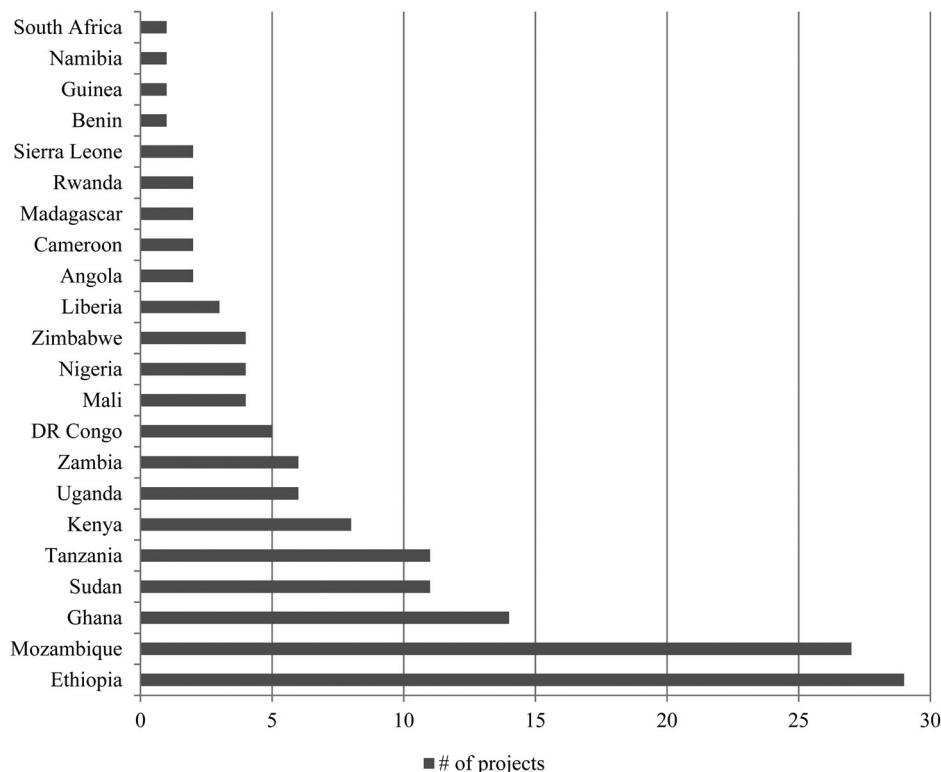


Figure 1. Distribution of investment projects by country.

Drawing inference from the case studies

To draw inference from the case studies on the local impact of LSLAs, one would ideally identify an appropriate counterfactual, that is, the situation that would have prevailed in the absence of the investment projects. In the case studies, the effects of LSLAs are typically estimated by implicitly or explicitly comparing the pre-investment to the post-investment period. This comparison is complicated by the fact that without exception all case studies are conducted *ex post*. If, however, the local environment is largely constant, this procedure allows for approximating the effects of the respective LSLA *under the given circumstances*. With respect to a meta-analysis, this shifts the problem to another dimension because the different circumstances that the LSLAs take place in render comparisons across case studies difficult even if these are internally valid.

We address this difficulty in the following way. We first identify the dimensions according to which each project has been evaluated. We then determine the number of projects that have been examined within each of the seven dimensions and sort the projects into groups according to whether they positively or negatively affect the respective dimension. In order to take account of the differences between the projects, we identify the transmission channels through which each project influences the outcome dimension. We rank these transmission channels within each dimension in order to understand how the projects affect the respective outcome. In order to additionally account for the differences between countries, we list the number of countries for which evidence is available

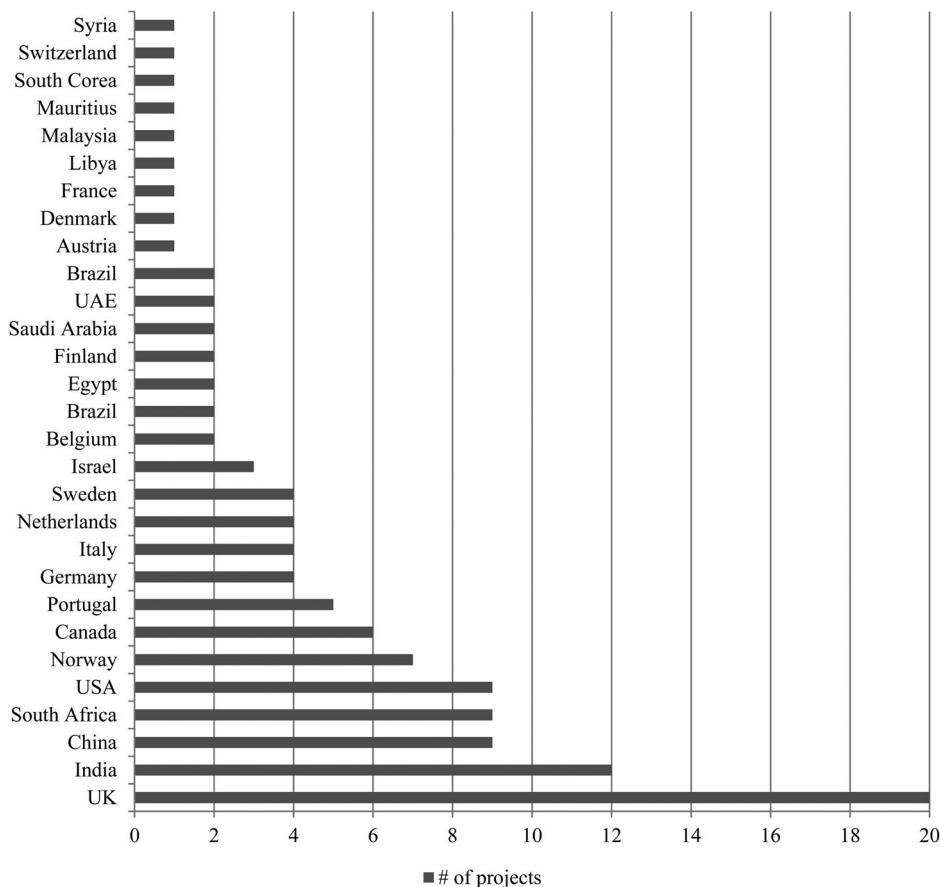


Figure 2. Distribution of investors by country.

within each dimension. Table 2 summarises the results. With respect to the first dimension, 'compensation for land use', evidence is available for 39 projects. Negative impacts in this dimension arise from the allocation of inadequate alternative lands, while the effect of monetary compensation schemes is mixed. With respect to the second dimension, 'land conflicts', the table shows that evidence is available for 30 projects. Negative repercussions arise in 16 cases from forced evictions, in 11 cases from blockage of common lands, and in 7 cases from land conflicts with neighbouring communities. This brief summary of the first two dimensions was intended to clarify how information from the case studies is aggregated. In the next section, we systematically discuss the evidence contained in the table. Whenever necessary we complement the numerical analysis by case-based evidence in order to illustrate how the findings within each dimension can be rationalised.

In order to answer the overall question of this paper, that is, how LSLAs affect local livelihoods, we complement the insight gained for the seven outcome dimensions by a dedicated analysis of those studies that explicitly evaluate the overall effect of the respective LSLAs on local livelihoods. The results are discussed in the fourth section (see Table 3 for a summary).

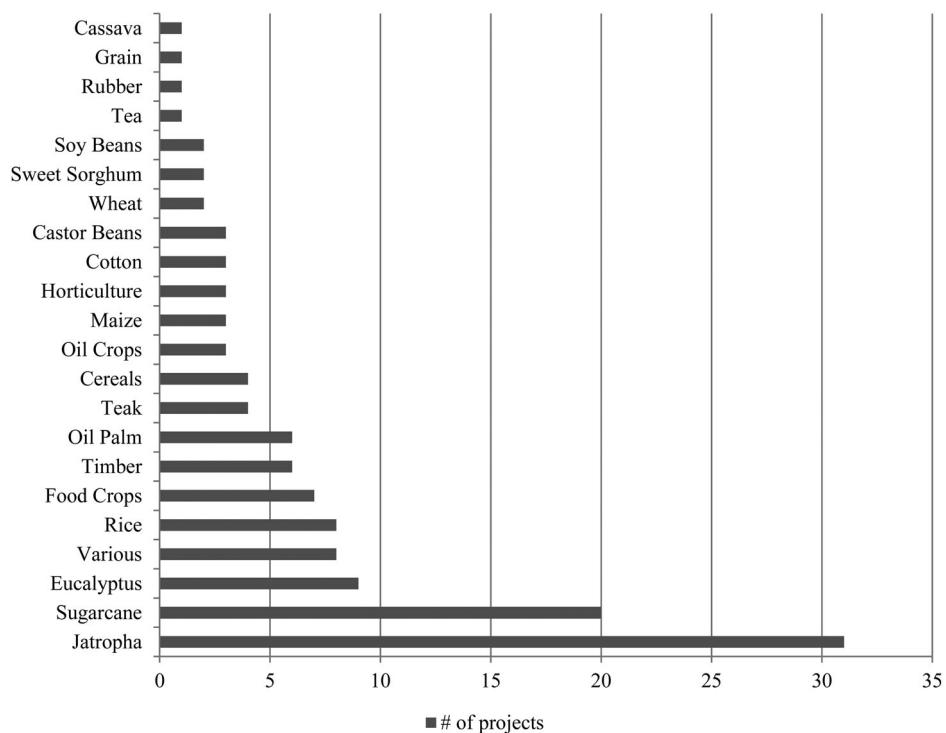


Figure 3. Distribution of investment projects by crop.

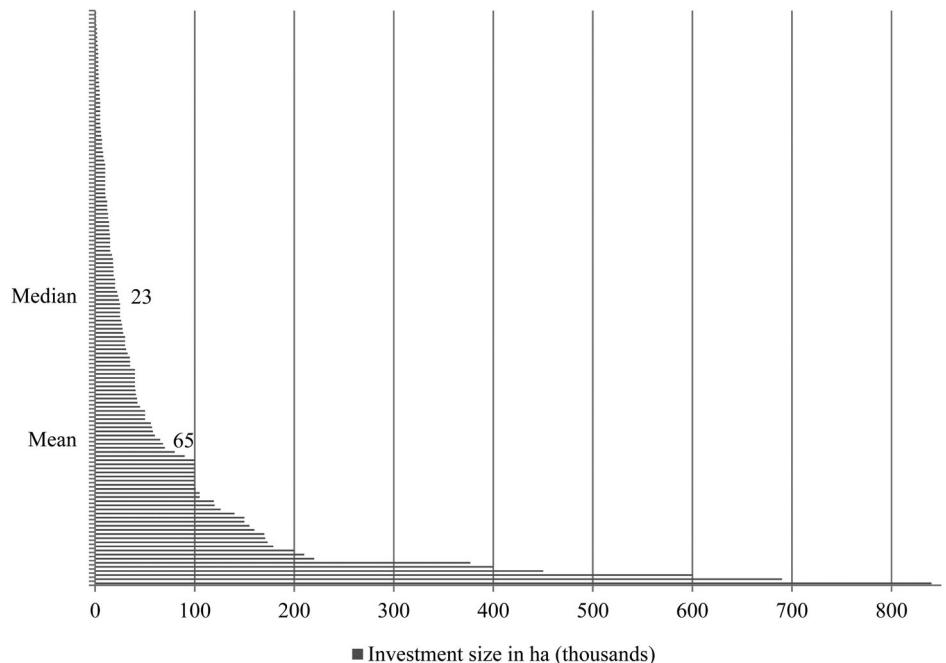


Figure 4. Distribution of investment projects by size.

Table 2. Results by outcome dimensions and main transmission channels.

Dimension	N	Main transmission channels			Top countries
		Positive	Negative	Mixed/Neutral	
Compensation for land use	39	–	<ul style="list-style-type: none"> Allocation of inadequate alternative lands (5) 	<ul style="list-style-type: none"> Monetary compensation schemes (34) 	Ethiopia (10) Tanzania (5) Ghana/ Sudan (3)
Land conflicts	30	–	<ul style="list-style-type: none"> Forced displacements/ Evictions (16) Blockage of common lands (11) Land conflicts with neighbouring communities(7) 		Tanzania (6) Ghana (4) Zimbabwe/ Ethiopia (3)
Food security	4	–	<ul style="list-style-type: none"> Loss of self-sufficiency/ Dependency on economic shape of investment (1) 	<ul style="list-style-type: none"> Intercropping of cash and food crops (3) 	Ghana/Mali/ Tanzania/Zambia (1)
Environmental effects	11	<ul style="list-style-type: none"> Increase of soil fertility through intercropping (1) 	<ul style="list-style-type: none"> Adverse effects on surrounding ecosystem (10) 		Ghana (2) Kenya (2) Zambia (2)
Provision of public goods & services	24	<ul style="list-style-type: none"> Investments in productive assets (19) Investment in social infrastructure (10) 	<ul style="list-style-type: none"> Failure to deliver on commitments (4) 		Ghana (5) Tanzania (5) Mali/Sudan (3)
Job creation	40	<ul style="list-style-type: none"> Job creation, especially in out-grower schemes (37) 	<ul style="list-style-type: none"> Non-local staffing of positions (5) 	<ul style="list-style-type: none"> Sustainability/Additivity of positions (40) Appropriateness of wages (7) Employment perspectives for marginalised groups (2) 	Ethiopia (18) Ghana (8) Mozambique/ Tanzania (3)
Access to technology & markets	10	–	–	<ul style="list-style-type: none"> Lack of specification of technical assistance and knowledge transfers (5) 	Tanzania (3) Ghana (2) Ethiopia/Mali/ Sudan/Zambia (1)

The local impact of LSLAs

We focus on the local impacts of LSLAs, which we define as all effects that LSLAs unfold directly, that is, without significant temporal delay and without being transmitted through indirect channels like national taxes, subsidies, and industrial policies, on the livelihoods in the investment hosting community. This definition explicitly excludes two dimensions which have featured prominently in the literature. First, by looking at the effects rather than the causes of LSLAs we do not discuss the drivers of LSLAs, such as land tenure systems or institutional frameworks (see Anseeuw et al. 2012 for an overview).

Table 3. Overview of case studies directly addressing the impact of LSLAs on livelihoods.

Source	Investment country	Effects on livelihoods
Benjaminsen et al. (2011)	Tanzania	Loss of land without appropriate compensation, as promises remain unfulfilled
Da Via (2011)	Sierra Leone	Fertilisation and irrigation deteriorate farming without appropriate compensation or adequately paid employment
Deng et al. (2010)	Mali	Income diversification yields increased revenues for contract farmers; direct employees are being paid 50% above market rates; economic stimulus through set-up of a processing plant
FIAN (2010)	Kenya	Loss of land without appropriate compensation or adequate employment creation; decreased access to communal lands and reduction in subsidiary income activities, that is, fishing and papyrus gathering
Friends of the Earth Europe (2010)	Mozambique	Wage labour does not exceed income from independent farming
German, Schoneveld, and Gumbo (2011)	Zambia	Little effects on livelihoods but significant future risks for smallholders
Graham et al. (2011)	Uganda	Loss of land without appropriate compensation or adequately paid employment
Haywood et al. (2008)	South Africa	Income diversification yields increased revenues for contract farmers
Lavers (2012b)	Ethiopia (<i>Project 1</i>)	Project failure induces lack of demand for cash-crops after smallholder gave up traditional small-scale farming; pesticides kill bees, which are an important auxiliary source of income
Lavers (2012b)	Ethiopia (<i>Project 2</i>)	Lack of inflation adjustment of transitory payments; negotiated prices do not exceed production cost; gender discrimination excludes women from land ownership
Locher (2011)	Tanzania	Loss of land without appropriate compensation necessitates rent from neighbouring villages; out-migration endangers traditional family ties
Mujere and Dombo (2011)	Zimbabwe	Substitute land not suitable for traditional livelihoods, that is, cattle ranching
Nonfodji (2011)	Benin	Insufficient payment on irregular basis to employed workers; forced diversion of smallholder cassava (a major source of nutrition) for biofuel purposes
Portale (2012)	Tanzania	Income diversification for contract farmers contingent on the previously cultivated crop
Schoneveld, German, and Nutakor (2011)	Ghana	Land competition and decreased access to communal lands; land degradation as a consequence of intensified use due to land competition
Tsikata and Yaro (2011)	Ghana (<i>Project 1</i>)	Decreased access to communal lands and reduction in subsidiary income activities, that is, fruit picking, clam picking etc.; gender discrimination in revenue distribution; confusion about land rights leads to destruction of produce; out-migration reduces economic activity
Tsikata and Yaro (2011)	Ghana (<i>Project 2</i>)	Reallocated lands do not match agricultural requirements for continued livelihoods; land scarcity leads to significant out-migration; expansion of social infrastructure; adverse impacts on communal lands, especially deteriorating livelihoods of women; collapse of commuter farming reduces employment opportunities for women
Väth and Kirk (2011)	Ghana	Delayed compensation payments; investments in social infrastructure; independent workers benefit more than plantation workers in terms of standard of living; minimal wages with no social protection
Veldman and Lankhorst (2011)	Rwanda	Little effects on livelihoods but significant future risks for smallholders; perversion in purchasing power for wage labourers
Wily (2011)	Mali	Loss of land without appropriate compensation or adequate employment creation; diversion of irrigation from auxiliary farmers to investment project
Wily (2011)	Zambia	Loss of land without appropriate compensation or adequate employment creation
World Bank (2011)	DR Congo	No loss of land and employment due to continued operation of existing plantation; expansion of social infrastructure

(Continued)

Table 3. Continued.

Source	Investment country	Effects on livelihoods
World Bank (2011)	Mozambique (Project 1)	Wages do not exceed income from previous activities
World Bank (2011)	Mozambique (Project 2)	Decreased access to communal lands, especially affecting livelihoods of women
World Bank (2011)	Zambia	Detrimental price mechanism for independent smallholders; reduction in subsidiary income through environmental pollution

Secondly, by taking a local perspective we explicitly ignore the macroeconomic effects of LSLAs, including changes in trade patterns, total factor productivity, tax revenues, and currency fluctuations.

Within these restrictions, the term 'local livelihoods' requires further clarification. Given the lack of a coherent theory and the diversity of potential effects, it is *ex ante* unclear which dimensions to consider when examining the local impact of LSLAs. A useful starting point is provided by the World Bank analysis (2011), which identifies four potential benefits arising from LSLAs. These are 'employment and jobs', 'social infrastructure', 'access to markets and technology', and 'local and national tax revenue'. In addition, it formulates five pre-requisite criteria which need to be satisfied for these benefits to materialise: 'impartial mechanisms to implement projects', 'voluntarily and welfare-enhancing land transfers', 'respect for existing land rights and other resources', 'economic viability and food security', and 'environmental and social sustainability'. Drawing on this typology, we have clustered the dimensions used most frequently in the case studies. While the case studies differ in the emphasis they put on the types of outcomes they examine, five of the dimensions that re-occur repeatedly throughout the studies are congruent with the dimensions proposed by the World Bank (2011). These encompass 'food security', 'environmental effects', 'job creation', 'public goods and services', and 'access to markets and technology'. The dimensions 'impartial mechanisms to implement projects', 'voluntarily and welfare-enhancing land transfers', and 'respect for existing land rights and other resources', which are proposed by the World Bank, cannot be disentangled in the case studies. We have regrouped these three dimensions into the somewhat broader categories 'compensation for land use' and 'land conflicts', which can both be clearly identified in the case studies. As the case studies do not allow for drawing inference on tax revenues, we have not included this dimension in our analysis. Figure 5 illustrates how the dimensions from the World Bank (2011) translate into the categories used in the analysis. In the remainder of this section we discuss the results provided by the case studies with respect to each of these dimensions.

Compensation for land use

We start by examining to which extent affected parties have received compensation, defined as monetary payments or the allocation of alternative lands, in exchange for the transmission of land-use rights.

The design of monetary compensation schemes is examined for 34 projects. The majority of compensation payments are made directly to the local community and to those households who bear the burden of the land loss (14 cases). In two cases, compensations are destined for local authorities. In a biofuel investment in Tanzania, a split

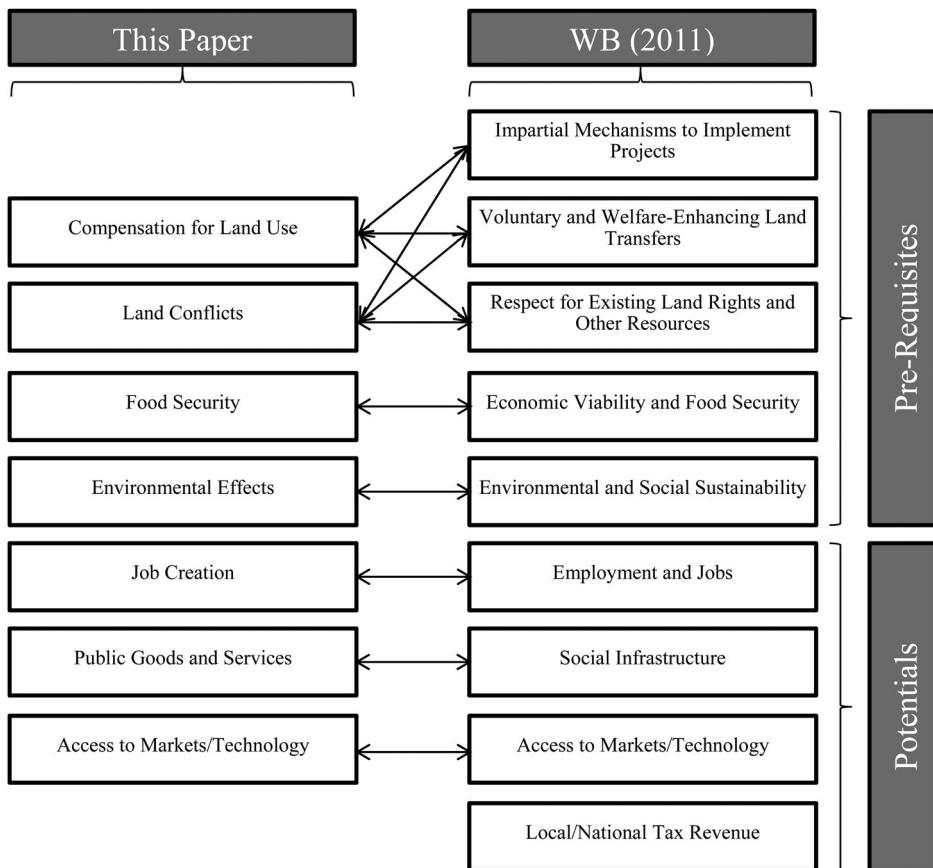


Figure 5. Dimensions of the analysis.

scheme exists which grants 40% of the up-front compensation to the district administration, while the remainder is paid to affected farmers (Hall 2011). With respect to the timing of the payments, 16 projects foresee an annual payment of the leasing rate; in 12 cases an up-front compensation for the entire period was paid. Six projects make use of a profit participation scheme.

The size of compensation payments varies substantially. In the case of annual leasing rates, amounts range from cent-prices (Wily 2011) to \$38.90 per ha (Stebek 2011). Up-front compensations paid to communities are in the range of \$35,000 (Makutsa 2010) to \$450,000 (Locher 2011). A similar variance occurs for compensations paid directly to households, where case studies report payments between \$14 and \$250 (Anseeuw et al. 2012). Similarly, in profit participation schemes dividend payments range from 10% (Deng et al. 2010) to 50% of total profits (Anseeuw et al. 2012).

In some contracts, an adjustment of payments over the contract duration is stipulated. One typical contingency relates to inflation adjustments (Cotula 2011). Yet it appears questionable whether such automatic adjustments are appropriate in high-inflation countries. For example, an annual adjustment of 2% over a contractual length of 99 years (Deng et al. 2010) is not sufficient to compensate inflation in Sudan, where the annual increase of consumer prices averages 36% (IMF 2012). Some contracts encompass discrete adjustments to

productivity increases (Bräutigam and Tang 2009), while others encompass gradual increases of payments up to a pre-specified ceiling (World Bank 2011). Such delayed payment schemes are intended to render a location more attractive to investors because depending on the crop type and the quality of the allocated land it may take several years for an investment to become profitable. Some contracts therefore grant a payment exemption for the period of establishment and ramp-up (Daniel and Mittal 2010). Such schemes in turn come at the cost of a delayed payment to affected communities.

Alternative land allocations occur in five projects. For all five cases, the allocation of alternative land is found to be inadequate. The example of a coffee plantation in Uganda, which led to the displacement of 430 families, clarifies the relevant dimensions. Firstly, only 2% of displaced families were compensated by substitute land, indicating a failure in scope. Secondly, the alternative land was characterised by unsustainably small plots and double allocations, highlighting a failure in scale (Graham et al. 2011). Thirdly, the quality of land did not meet the requirements for the community to continue their customary agricultural activities (Mujere and Dombo 2011).

In sum, the large variance of payments, combined with a lack of consultation with local dwellers, which is reported for 18 cases, casts doubt on whether local parties are compensated adequately for the provision of land. In particular, compensation by means of alternative land turns out to be insufficient across all cases.

Land conflicts

Out of the 146 investment projects, approximately 20% (30 cases) are found to be ridden by land conflict. Such land conflicts encompass any registered dispute between affected parties, forced eviction, the loss of access rights to customary lands, or any combination of these effects.

Reallocations of up to 6000 people as in the case of a multi-use ranch in Zimbabwe give an impression of the magnitude of some projects (Mujere and Dombo 2011). Often these reallocations happen without 'free prior informed consent' (Cotula et al. 2009) but rather take the form of forced evictions (see among others Deng et al. 2010; FIAN 2010). Most conflicts arise in projects affecting communal land like fallow grounds, forests, pastures, and grazing land which are not legally titled but often are indispensable for local livelihoods. As such, legal rights collide with informal customs and traditions and ultimately exclude households and communities from the use of communal resources. An example is provided by a Saudi-Arabian investment project in Ethiopia, where a private company bought forests previously utilised for gathering firewood and construction material by the local population (Alemu 2011). In cases where these lands do not serve productive purposes, they often embed pathways, the blockage of which can become a significant obstacle for the flow of goods and workers. In the case of the Ugandan coffee investment referred to before, the establishment of an estate farm significantly increased travel times to community services such as health care, leading to a reduced availability of medical assistance (Graham et al. 2011).

The displacement of local communities has in seven cases led to land conflicts with neighbouring communities because migrants from investment-affected communities have occupied farming land there (e.g. Benjaminsen et al. 2011). In one of these cases the reduced

availability of land has also led to the occupation of natural reserves (Friends of the Earth Europe 2010) and, in another case, to the destruction of religious sites (Locher 2011).

Food security

Only four projects (3% of all cases) have been found to reduce food security. This small number stands in stark contrast to the prominence of concerns regarding food security in the debate on LSLAs, which are usually associated with biofuel projects, that is, mainly with Jatropha plantations. However, as long as Jatropha is intercropped with traditional food crops such as maize there are no signs of adverse effects on local food security (de Schutter 2011; Kay and Franco 2012). The overall neutrality of Jatropha plantations is of prime importance when taking into account that about three quarters of all non-food investments are cultivations of Jatropha. The four cases that have led to reductions in food security do not show a clear pattern of the underlying reasons. In one specific case, food insecurity rose after an investment project went bankrupt because with the introduction of wage labour local dwellers had given up smallholder farming (Tsikata and Yaro 2011).

Environmental effects

Positive environmental effects from LSLAs are documented for only one project. German, Schoneveld, and Gumbo (2011) show that due to its nature as a hedge plant, Jatropha reduces erosion and increases soil fertility. In contrast, adverse effects on the environment are reported for 10 LSLAs. Most prominent among these effects are disruptive consequences on the ecosystem surrounding the investment sites, which is found for all 10 cases. In one project, the land allocation encroaches on indigenous forests that serve as migratory corridors for endangered species (Makutsa 2010). The World Bank (2011) describes the silting of swamps following land-clearing activities for a rice plantation in Liberia. In addition, soil erosion (Tsikata and Yaro 2011), the depletion of water resources (Kay and Franco 2012), and water and air pollution (FIAN 2010) result from intensified land use. German, Schoneveld, and Gumbo (2011) found out-growers in Zambia to expand their acreage when intercropping traditional food crops with Jatropha in order to counterbalance the decrease in food production.

Overall, detrimental environmental effects from LSLAs are found in less than 10% of the examined cases. In this context it is, however, important to stress that the socio-economic make-up of agriculturally dependent communities is particularly vulnerable to such effects. For instance, the conversion of communal grazing lands to agricultural land provoked social tensions in an investment hosting community in Ghana because as grazing lands contracted, livestock entered neighbouring fields and destroyed the cultivated crops (Tsikata and Yaro 2011). Similarly, the deterioration of water resources due to over-fertilisation has negative social and economic consequences in communities where fishing serves as a source of subsidiary income (World Bank 2011).

Provision of public goods and social services

Public goods and social services are provided to local communities in 24 projects. In 19 cases, local communities have benefitted from capital investments directly related to

the business activities of the projects. These investments can be classified into three different types. Firstly, irrigation schemes built for the operation of the investment provide water to local farmers (Cotula 2011). Secondly, new feeder roads establish a connection to transportation hubs or downstream processing sites (Tsikata and Yaro 2011). Thirdly, the construction of processing plants increases local value creation. This predominantly happens with biofuel (de Schutter 2011) and sugar investments, which both come along with substantial investments of up to \$2.5 billion (Makutsa 2010). Veldman and Lankhorst (2011) describe the renovation of a sugar factory in Rwanda with an investment volume of \$13 million as an example for the modernisation of existing facilities.

10 projects led to improvements in social infrastructure, either by means of investments or through the provision of services. An investor of a 24,000 ha LSLA in the Democratic Republic of Congo donated a 230-bed hospital and a secondary school to the local community (World Bank 2011). Other investments in public or social infrastructure encompass the construction of electricity poles and boreholes (Väth and Kirk 2011), or the provision of primary school teachers and health care transports (Tsikata and Yaro 2011).

Notwithstanding the number and the magnitude of these investments, Daniel (2011) and Graham et al. (2011) point out that in numerous other cases investments into infrastructure such as boreholes, warehouses, and health care facilities were promised but not undertaken.

Job creation

Positive employment effects are found for 37 projects. Of particular importance for job creation are business models that complement a nucleus estate with an out-grower scheme. One example is provided by a castor bean investment in Ethiopia, which employs 5000 workers on the nucleus farm and in addition contracts between 84,000 and 124,000 additional out-growers (Lavers 2012a). Notwithstanding the impressive numbers of large-scale out-grower establishments, net employment creation is lower as hardly any of these investments is conducted on idle, uncultivated land but substitutes previous farming activities. In the Ethiopian case, the 72,000 ha assigned to out-growers were previously partitioned in smaller parcels which were each being cultivated by one smallholder family. However, although net employment effects might be overstated, out-grower models are on average less destructive for employment patterns in comparison to more mechanised farming technologies and do not involve extensive displacements of previous tenants (Väth and Kirk 2011).

Most employment contracts are of temporary rather than permanent nature. With 10,300 employees, the highest employment figure for hired labour is reported for an 18,516 ha investment in cotton farming in Ethiopia. Of these, however, only 300 are employed on a permanent basis. Other projects exhibit similar ratios of temporary to permanent employment (see Stebek 2011 for an overview for Ethiopia). Temporary contracts lead to a particular vulnerability of workers in regions where only one large employer exists, like a biofuel investment in Ghana, where as a result of financial difficulties the number of staff decreased from 280 to 5 (Tsikata and Yaro 2011).

In five cases, employment opportunities for the local population were attenuated by the staffing of skill intensive positions with outside labour (see Veldman and Lankhorst 2011) and by crowding out effects due to in-migration from neighbouring regions (see Diallo and Mushinzimana 2009).

Two cases studies document the impact of LSLAs on the employment perspectives of marginalised groups. In one case, an out-grower scheme in particular benefitted women and pastoralists (German, Schoneveld, and Gumbo 2011). In contrast, the second case mentions discrimination against women in the hiring process (Brüntrup, Herrmann, and Gaebler 2009).

In sum, one quarter of LSLAs are associated with substantial employment creation. While it is not always clear whether the created jobs are additive and sustainable, LSLAs can be associated with positive net employment, especially when taking into account the large number of contracted out-growers.

Access to technology and markets

For 10 projects, the case studies document a transfer of knowledge and technology and improved access to markets. Knowledge transfers include training activities, supply of seedlings and fertiliser, and technical assistance. One example is a Jatropha investment in Mali, where ‘technical assistance [is provided] to farmers through a network of field staff to improve their agricultural practices’ (Vermeulen and Cotula 2010a, 67). In addition, Deng et al. (2010) provide evidence from a biofuel investment in Mali that cooperates with a local farming association. In this project, 55 training agents were hired to establish a ‘farmer business school’ for training contract farmers in cultivation techniques.

Technology transfer and marketing services are provided only within out-grower schemes because if LSLAs rely on mechanised farming and wage labour, investors have little incentive to offer knowledge or services to the hosting community. The case studies do not contain systematic information on timeframes, frequency of the interventions, associated financial commitments and eligibility criteria. The importance of such information becomes clear when considering that a biofuel project in Zambia offers its services on credit, that is, farmers need to pay for them (German, Schoneveld, and Gumbo 2011). Hence, the net benefits for smallholders from such services are not as large as suggested by their mere availability.

As a result, transfers of knowledge and technology and an improved access to markets are documented for 6% of the projects. Their impact on local output, productivity and income of the out-growers is, however, unclear due to the complexity of the specific regulations (see Sulle and Nelson 2009; Lavers 2011; Anseeuw et al. 2012).

The overall effect of LSLAs on livelihoods

The results on the seven outcome dimensions show that the main transmission channels through which LSLAs unfold positive effects on local communities are the provision of public goods and social services and through job creation (see Table 2). At the same time, LSLAs are associated with insufficient compensation schemes, the occurrence of land conflict, and environmental degradation. While instructive on single dimensions, most case studies do not contain enough information to draw conclusions on the net effects from LSLAs. In this section we aim to get as close as possible to an assessment of the overall impact of LSLAs on local communities. We therefore focus on those 25 case studies, which explicitly analyse the overall effect of an LSLA on local livelihoods. The results from these case studies are summarised in Table 3.

Nineteen case studies find overall negative effects on livelihoods, three conclude that the investment project has brought virtually no change and three studies identify positive net effects. Positive influences mostly accrue to out-growers for whom the investments are an opportunity for income diversification (Haywood et al. 2008). Furthermore, in-migration leads to market development and positive growth effects from consumption in the target region while relieving pressure in neighbouring labour markets (Anseeuw et al. 2012). Negative effects on local livelihoods arise along various dimensions. Firstly, inappropriate (Mujere and Dombo 2011) or delayed (Locher 2011) compensation for land loss have led to a significant reduction of livelihoods. Secondly, resource depletion impairs livelihoods for various reasons. In one case, the use of fertiliser is incompatible with beekeeping (Lavers 2012b). In other cases, the construction of irrigation channels has dried up communal lands (Wily 2011). These cases indicate that resource deprivation can also evolve from allegedly positive interventions like technology transfer and the provision of public goods. Thirdly, livelihood reductions arise from a decrease in income. While income diversification has a positive impact for out-growers, wages for hired labour generally do not outweigh the loss of income from traditional smallholder farming (Fairbairn 2011). This effect increases in importance over time if wages are not adequately adjusted for inflation (Lavers 2012b). Fourthly, there is a widespread marginalisation of vulnerable groups like women and pastoralists who lose their primary source of income from restricted access to communal resources (World Bank 2011). For these groups, LSLAs disrupt traditional lifestyles and institutions by changing the nature of income generating activities and by shifting power structures. An example for the former is a Ghanaian investment where fixed employment contracts crowd out communal work, which has led to conflicts among local residents (Schoneveld, German, and Nutakor 2011). The latter case is exemplified by tribal chiefs who have acted on their own account in contacts with investors rather than representing the interest of their community (Tsikata and Yaro 2011).

Discussion and concluding remarks

In this paper we have explored the local impacts of LSLAs along seven outcome dimensions in order to draw conclusions on their impact on the livelihood in hosting communities. We therefore have reviewed evidence from 60 case studies on 146 LSLAs in 22 countries. While a number of projects generate positive effects through employment creation and the provision of public goods and services, these are offset by inadequate compensation, land conflict, and environmental degradation. Overall, 19 out of 25 case studies find a negative overall impact of LSLAs on local livelihoods. These results are similar to the evidence provided regarding biofuel projects (see [Appendix](#)), which feature prominently among LSLAs and which have received particular attention in recent debates. Taken together, these findings cast doubt on the popular notion that investor interests coincide with the needs of local communities in SSA and, hence, that the land rush of the recent years is a viable strategy for rural development.

However, as it is the case for most meta-studies, these results warrant a word of caution. Despite all efforts to construct an encompassing sample of reliable and conclusive studies on LSLA in SSA and to carefully assess the evidence, a number of difficulties remain. First, the different scale, focus, and regional context of the projects limit their comparability and,

hence, the impact assessment that can be made. Secondly, since we have not conducted a field-evaluation ourselves, the evidence provided here can only be as good as it is contained in the case studies. In particular, drawing general conclusions is complicated by the different measures and criteria contained therein. Finally, Oya (2013) highlights that studies on LSLAs tend to hunt for ‘killer facts’ at the expense of providing a complete picture of the evidence.

While certainly not ruling out all sources of potential bias, we have tried to address these problems by restricting the sample to works by authors with academic affiliations (excluding, e.g. media reports), focusing on incidences of LSLAs for which information can be ascertained across multiple data sources, and explicitly excluding projects which are not yet implemented or have been cancelled. In addition, we have tried to enhance comparability by drawing on the analytical categories proposed by the World Bank (2011). While these categories are in congruence with most of the dimensions addressed in the case studies, their use sets limits to the insights that can be gained from the analysis. In particular, important dimensions such as power structures, participation in processes of decision making, commodification of natural resources (see Cabello and Gilbertson 2012), and the distribution of economic risk are not addressed here. They provide a fruitful area for further much needed evidence on the consequences of LSLAs.

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No potential conflict of interest was reported by the authors.

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Appendix. The local impact of biofuel and REDD+ projects

One form of LSLAs which has attracted growing attention in the debate on LSLAs in recent years are biofuel investments. The hopes for such projects to not only deliver substantial amounts of renewable energy but also to provide incomes to small-scale farmers were high in the early years of the new millennium (e.g. Kant and Wu 2011). The results have, however, been discouraging in two regards.

First, a large share of the intended projects never reached the stage of implementation or were cancelled after only a few harvests. Locke and Henley (2013) report that on average only about 2% of the land authorised for biofuel production in Ethiopia, Mozambique, Tanzania, and Zambia was



eventually cultivated. Axelsson and Franzen (2010) provide evidence that 85% of farmers in India did not continue to grow Jatropha. This is partly due to previously over-optimistic expectations of yields and of the competitiveness of biofuels with fossil fuels. In addition, the impact of biofuel projects on local development has lagged behind expectations. While an encompassing review of the literature on biofuels has to be left for further research, the following studies suggest that the local impacts of biofuel projects are on average similar to those from LSLAs in SSA. Hultman et al. (2012) and Sulle (2015) both show that they were in several cases accompanied by land transfers without free and informed consent of land owners and communities, destruction of forests and wildlife migration corridors, and the dependence of farmers on world prices. In addition, they have threatened rural livelihoods and land rights, and have reduced women's chances to produce household consumption crops.

Similar to the case for biofuels, ex-ante expectations regarding local development prospects were also optimistic for the recent wave of REDD+ (*Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries*) projects. In their assessment of two REDD+-focused special issues (*Environmental Science and Policy* (Governing and Implementing REDD+) and *Forests* (2, 2011)), Cabello and Gilbertson (2012) argue, however, that such projects are likely to lead to similar detrimental effects as do LSLAs in SSA and biofuel projects worldwide.