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Review of social issues for large-scale land investment in Zambia

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Abstract: Given unsuccessful experiences to date in establishing large-scale investments for biofuels in Zambia, this paper explores the social constraints that may hinder future efforts to use the same models. The author reviews the legal framework that has guided the establishment of most agricultural investments to date (including investment in biofuels), and analyses some of the issues and social repercussions associated with them, through a review of existing case studies. He also explores through light-touch analysis of available cost data the costs associated with carrying out investments in a more socially inclusive way, relying on international best practice. He suggests that, before governments and investors embark on new efforts to expand biofuel production through an approach that involves land transfers, there is a need to strengthen institutional capacity around compensation and resettlement issues in both government and customary authorities and raise investors' awareness of the risks associated with failing to obtain community consent.

Keywords: biofuels, feedstocks, social constraints, Zambia, resettlement

JEL classification: O13, Q10

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1 Introduction

Reaching levels of production of liquid biofuels (i.e. bioethanol and biodiesel) in Africa necessary to meet demand from full implementation of national blending mandates is expected to require bringing more land under feedstock cultivation. While there is to date no large-scale commercial production in any of the countries, there continues to be sustained interest in what underlying conditions are required to create a viable biofuels supply chain. Samboko and Henley (forthcoming) identify several conditions, including:

- Sustained production of feedstocks
- Demonstrable benefits for firms, farmers, and the economy at large
- An understanding of the biophysical and social limitations of industry expansion
- Identification of viable production models for feedstock
- Incentives and supportive government policies
- Adequate demand for liquid biofuels.

For the sustained scaling-up and production of feedstocks, models need to take into account both the broader economic environment and the biophysical and social parameters of the situations they operate within. With additional demand for feedstock, it is to be expected that demand for land, water, and labour will scale proportionally and create trade-offs with other areas of agricultural production and broader rural activity. These trade-offs and the risks and challenges they create have been explored in depth in recent literature on large-scale land acquisitions and land- and resource-grabbing. The section of this literature focusing on biofuels has highlighted that experiences to date have failed due to a convergence of non-conducive global economic conditions paired with poor appreciation of the agronomics of production, and an under-appreciation of the complexities of acquiring land (see e.g. German et al. 2011).

While initially the focus of the land grab literature was on the total area of land that has been transferred through contracts and acquisitions by international actors, more recently it has shifted towards the mechanics of land transfers, looking at both the actors at national level who act as gatekeepers to land (e.g. national state investment agencies, ministries of land, traditional authorities) and the legal mechanisms that govern how land is transferred and what happens to those whose land is taken (e.g. Tagliarino 2016).

This working paper focuses on the social constraints to expanding biofuel production in Zambia through large-scale investment models. This is done by reviewing the literatures on the experiences of large-scale land acquisition in Zambia and the social impacts of these and on the legal mechanisms that shape outcomes.

2 Experience to date of commercial biofuel projects in Zambia

Zambia is one of the countries that has attracted the most interest from investors seeking large tracts of land to develop agriculture projects (Deininger and Byerlee 2011; Oakland Institute 2011). The pace of investment has been sustained through to recent years.

Using several sources of data,¹ Sipangule and Lay (2015) detail the number, size, and location of large-scale land acquisitions (LSLAs) across Zambia’s districts. They enumerate 95 foreign LSLAs in 26 districts, covering around 562,312 ha of land. All these districts are in the Central, Copperbelt, Northern, Northwestern, Luapula, and Southern provinces, and the five districts that have attracted the most projects are Mkushi (13), Chibombo (12), Kabwe (12), Choma (8), and Kafue (7). Their analysis suggests that most investments are clustered along the railway line and major roads, indicating a preference among investors to locate near to existing infrastructure. Their findings also suggest that investors prefer to take on existing farms rather than invest in greenfield sites.

Recent analysis by the Land Matrix (2016) considers a smaller number of deals (34),² covering 390,074 ha. Looking at the intended use of the land, they find that most projects aim to produce food crops (42 per cent), followed by multiple use, which includes food and livestock production. Although making up only 15 per cent of deals, investments that target the production of biofuel feedstocks cover 53 per cent of the land under contract, or 206,739 ha.

Table 1: Allocation of land under LSLAs to different land uses, 2016

	Food crops	Biofuels	Agri unspecified	Multiple use
Percentage of total deals	42	15	4	39
Percentage of total hectares	12	53	0	35

Source: Land Matrix Data (2016).

Unlike some other countries, where the number of deals dropped following an initial wave of acquisitions in 2008–2010, Zambia has seen an increase in the pace at which deals have been signed since 2011, with significant deals covering a large area of land (c. 200,000 ha) signed in 2012.

Moreover, a large share of intended deals have progressed to an operational stage. The Land Matrix (2016) analysis suggests that 15 of the 26 deals (65 per cent) that have been concluded have progressed to an operational phase; similarly, Sipangule and Lay (2015) find that of the 95 cases they examine, 75 (79 per cent) have progressed to an operational phase.³

However, as is the case elsewhere, the majority of these investments are not farming the full area they have leased: the Land Matrix analysis suggests that, on average, ventures are farming less than 5 per cent of the area they have under contract. Biofuel feedstock projects in particular have faced challenges in reaching the production stage: only two of the seven biofuel feedstock projects have reached and remain in production, and it is unclear how much of this land is actually cultivated (Land Matrix 2016). Reasons for this are discussed below.

3 The investment environment in Zambia

Part of Zambia’s attractiveness is its legal framework, which provides relatively easy access to land for investors. This reflects the investment-friendly orientation of laws and regulations in place in

¹ Including from the Zambian Development Agency and Land Matrix.

² The Land Matrix (2016) limits its analysis to deals for agricultural purposes (excluding forestry and mining) that entail a transfer of rights to use, control, or own land, cover an area of at least 200 ha, and were initiated after 2000. Data were valid as of 1 February 2016.

Zambia (Sambo et al. 2015). The 1995 Land Act allows investors that meet a set of conditions⁴ to acquire land.

To stimulate the agricultural sector, the government has played an active role in promoting Zambia as a destination for foreign investment in agriculture. The cornerstone of this drive was the establishment in 2008 of a Farm Block Development Program. Through this programme, the government identified large tracts of land in nine provinces that it planned to survey, convert from customary to state land, and provided titles for. To attract investment in these locations, the government made investments in key infrastructure, including roads, irrigation, and power, in these same areas (Oakland Institute 2011). As of 2014, one of the farm blocks (Nansanga) was well advanced; as well as providing electricity and dams, the government had conducted a cadastral survey and titled the land (GRZ presentation 2014).

Box 1: Zambia's Farm Block Development Program

The Farm Block Development Programme (FBDP) is the Government of Zambia's flagship programme to promote agricultural investment in areas of the country that have hitherto been unattractive. In each province the government has identified an area of no less than 100,000 ha in which to develop commercial agriculture. The aims of the programme are to diversify and grow the rural economy, address poverty and food security, and add value to existing agricultural production. The programme encourages the cultivation of crops other than maize, including horticulture, legumes, and citrus fruits, and the rearing of livestock, poultry, and fish. Participating investors receive several types of incentive, include tax deductions, development allowances, exemptions from customs duty on imports, and tax rebates for exported crops. Each farm block is designed to have a core farm of 10,000 ha, 1–3 commercial farmers with 1,000–5,000 ha each, and groups of farmers with smaller areas of land including medium-scale (100–1,000 ha), emergent (50–100 ha), and small-scale (25–50 ha) farmers. The intention is that these farmers will be linked to the core venture, which will coordinate production. As of January 2014, the programme included 10 sites totalling 850,000 ha, of which Nansanga and Luena were the most advanced, with construction of roads and irrigation complete or under way.

Most investments prior to 2010, when the FBDP was started, took place on land outside of farm blocks (Land Matrix 2016), but analysis by the Land Matrix (2016) also found that, while most projects to date have taken over existing commercial farms (confirming the findings of Sipangule and Lay (2015) reported earlier), the majority of intended deals propose to acquire land currently used by smallholders that is outside the farm blocks.

4 The process of land acquisition for investment

As in other countries in the region (e.g. Tanzania), only state land can be leased to investors. However, to facilitate access to the large areas of rural land under customary authority, the Land Act provides a mechanism for the conversion of customary land to leasehold state land. This mechanism has been frequently used by Zambia's growing middle class, who, together with central and local government, have led a process of land conversion that has reduced the area of customary land from a figure as high as 94 per cent in the mid-20th century to 54 per cent in 2015 (Sitko et al. 2015).

⁴ These conditions include that the company must adhere to the Investment Act, requiring that 75 per cent of shareholders are Zambian and are registered in Zambia.

The Land Act also allows traditional owners and existing leaseholders to identify external investors and recommend them to the Commissioner in the Ministry of Lands, and it is usually the case that investors and Chiefs negotiate the terms of access to land before the land is identified for conversion (Sipangule and Lay 2015).

4.1 Institutions involved in the process of land investment

The process of finding and transferring land for investment is carried out through the Zambia Development Agency (ZDA). The preliminary phases of the process require that the investor submits:

- A letter of intent to the ZDA Director General highlighting the sector of interest and the land required
- A document showing a clear level of corporate social responsibility
- Proof of relevant registration documents and certificates, and an application for an investment licence
- A clear land use plan for the land being requested
- A statement of willingness by the investor to cover all expenses related to the land acquisition prior to investment.

The ZDA's land unit desk (LUD) is thereafter responsible for processing land acquisitions by investors. Activities and fieldwork related to land acquisition are outlined in Box 2.

Box 2: Activities related to land sourcing, identification, and processing

The process of finding and transferring land for investment is carried out through the Zambia Development Agency (ZDA). According to guidance produced by the ZDA (2013), the preliminary phase of the process requires that the investor submits—alongside relevant registration documents—documentation setting out its intentions and the land requirements for the investment as well as the corporate social responsibility measures it will undertake.

A series of steps that involve mapping and consultation should follow. These include holding meetings with traditional authorities and village Headmen to discuss the land requirements for the project, as well as obtaining endorsement for the site plan from the Chief of the area, the Council Secretary, or, where relevant, the Town Clerk. Four authorities must provide approval for the conversion of customary land to leasehold title: the Chief must provide written consent; the District Council must provide a resolution recommending its conversion in the form of minutes of the committee meeting at which the decision was reached (as well as providing an approved layout plan for the land endorsed by the Chief); and the Chairman of the Council and the District Executive Secretary must approve the conversion. The Commissioner of Lands is also meant to provide consent and will do so unless the process causes injustice, or is contrary to national interest or policy.

4.2 Challenges identified in the land transfer process and associated risks

As described in the introduction, large-scale land transfers have often been associated with negative social outcomes. Much of this association can be traced to processes around:

- Expropriation of land
- Consultation with and consent from households before, during, and after land transfer
- Benefits provided by investors
- Amount and terms of compensation paid in the event of loss of land

- Terms of resettlement if households have to move as a result of the transfer of land
- Oversight of the above processes.

This section discusses some of the challenges that have been identified in the above areas in the recent literature.

Expropriation of land

Under Zambia's existing legal framework, the President can expropriate land for public purposes. The rationale for expropriation is, however, rather loose: according to the 1970s Land Acquisition Act, the President may expropriate land 'whenever he is of the opinion that it is desirable or expedient in the interests of the Republic to do so' (quoted in Tagliarino 2016). Given this low threshold, there is very limited scope to dispute a compulsory acquisition order: legal appeals can only address the amount of compensation due (discussed below) and not the order itself.

Consultation

For both the regular transfer of land—from the customary to the statutory domain—and its compulsory acquisition, Zambia's land legislation contains only weak provisions for consultation.

For regular transfers (i.e. where there is no compulsory acquisition order and Chiefs transfer land voluntarily) the 1995 Lands Act requires the President to take into consideration customary law and consult those whose interests may be affected, but it provides no guidance on how such consultation should take place. Since consent is required only from a Chief, in practice most community members are not asked for their consent (Chu and Phiri 2015). Nor is there guidance on whether (and how) affected people are to be compensated in the event of physical or economic displacement (Tagliarino 2014).

For compulsory acquisition, as the Land Acquisition Act does not restrict what types of land the President can acquire, there are no provisions for consultation beyond notification and negotiation on the terms of the valuation. There is also a provision for households to decide whether they receive land or cash in compensation for the land they are sacrificing, if the choice is offered by the government.

Benefits provided by investors

As described in the section above, investors are meant to submit outlines of how their investments will benefit local communities as part of their investment application. However, it is unclear from the legal framework whether monitoring and ensuring compliance with these commitments is the responsibility of statutory or customary authorities. The 1999 Lands Act is not clear on what rights the Chiefs retain over land following conversion, what other customary rights to land use (other than occupation, which is prohibited) remain, and whether customary laws continue to apply. Tagliarino (2014) notes that, in practice, customary claims to land are extinguished and the Chief's ability to influence actions by the investor is diminished, as only the Commissioner of Lands is party to lease agreements, and leases are subject only to statute and regulations passed by the Ministry of Lands. Chiefs are not given any mandate to ensure that the terms of the contract are enforced.

Resettlement and compensation

In Zambia, environmental and social impact assessments (ESIAs) are the legal mechanism used to identify potentially adverse impacts and select suitable mitigation mechanisms prior to resettling

people affected by projects. These are covered under the Environmental Management Act of 2012 and the National Environmental Policy of 2007 (Sambo et al. 2015). The Compulsory Lands Acquisition Act states that households losing land as a result of compulsory acquisition are eligible for compensation as calculated through a valuation exercise. However, when land is transferred voluntarily by Chiefs, households that lose land are not entitled to statutory compensation and therefore may not receive any benefits (Sambo et al. 2015). As Zambian law contains no provisions for compensating economic losses associated with livelihoods beyond standing crops and trees (Tagliarino 2016), any such compensation is voluntary, and rare.

Moreover, observers suggest that compensation falls short of international practices as recognized by the Voluntary Guidelines on the Governance of Tenure (Tagliarino 2016) and international finance institutions including the World Bank, IFC, and an increasing number of public and private financiers that use the IFC's guidelines for compensation. The following gaps have been identified.

- International standards require compensation to be paid for 'loss of assets or access to assets; or [...] loss of income sources or means of livelihood, whether or not the affected persons must move to another location' (Dalal-Clayton and Sadler 2014).
- Under Zambian law, only those households that have registered rights are entitled to compensation. This in effect means that households occupying customary land are not automatically entitled to compensation in the event of resettlement. In some cases, compensation is provided to households without legal claims, but this is very much on a discretionary basis.
- In cases where compensation is due, current Zambian law provides for the payment of compensation at market value for losses of land, buildings, and crops and other damages arising from the acquisition of land for project activities. However, moving costs or rehabilitation support to restore previous levels of livelihood or living standard are not recognized. This differs from international standards, which require that compensation is such that resettled households are able to pursue their livelihoods at the same level.
- Under international standards, households are eligible for compensation for lost income. This is not required under Zambian law.
- International standards⁵ call for comprehensive resettlement planning, including a resettlement action plan that requires a census, social economic survey, consultations with project-affected people, monitoring, and reporting. Equivalent requirements do not exist under Zambian law.

Finally, unclear guidance on the mechanisms through which resettlement claims are to be paid means that there is a risk of unfair distribution of funds, benefiting some households over others.

Oversight

The literature suggests that there is no clear division of responsibilities between government departments for dealing with issues related to displacement and resettlement. Chu and Phiri (2015) note that, while the Zambia Environmental Management Agency (ZEMA) is responsible for auditing Environmental Impact Assessments (EIAs) and Resettlement Action Plans, the process of resettlement is overseen by the Department of Resettlement and the Disaster Management and Mitigation Unit (DMMU), which sits under the Office of the Vice President. While ZEMA is required to monitor EIAs, it is often the case that by the time these are submitted to ZEMA, decisions regarding resettlement have already been taken, leaving little scope for altering plans in

⁵ Such as the World Bank's Operational Principles and the IFC's Performance Standards (particularly PS5).

advance of resettlement. Research by Phiri et al. (2015) suggests that ZEMA does not systematically monitor Resettlement Action Plans. The cases investigated so far suggest that there is inadequate communication between these offices (Phiri et al. 2015). In other cases, the valuation of assets is carried out by the Ministry of Agriculture but compensation is made by the Ministry of Local Government and Housing (Samboko personal communication).

In addition, while all projects requiring resettlement need to submit an EIA, producing a Resettlement Action Plan does not appear to be a legal requirement for either government agencies or companies whose internal policies do not mandate one. Instead, government agencies often rely on the DMMU to carry out these tasks, but that latter appears not to have adequate capacity to monitor and enforce the regulations as they stand (Sambo et al. 2015).

The relatively high level of institutional fragmentation suggested from the discussion above leads to different processes being applied, resulting in different outcomes for households. In response, recent researchers include among their policy recommendations the need for a national resettlement framework to harmonize approaches across national institutions (Chu and Phiri 2015).

4.3 Impacts of LSLA on communities: social risks from land transfers

In the light of the process for transferring land to investors described above, we briefly discuss how—in the absence of consultation with those affected by new investments, and in the frequent absence of equivalent alternative land and cash compensation—the impacts of these investments are felt.

An African Development Bank study on the resettlement of farming households in Zambia (Makano 2015) identifies the following social risks that households are likely to face in the absence of effective resettlement:

- Loss of permanent assets, include housing, livestock, and land
- Lower levels of farm production due to poorer land, lack of understanding of land, and dislocation from trading routes or storage facilities
- Lack of acceptance of resettled population by incumbent communities, and conflict over existing resources
- Inferior access to schooling, medical facilities, and social amenities.

The study also notes that vulnerable groups may be disproportionately affected and lose access to resources they had had access to in their previous environment.

4.4 Findings from the literature

Findings on the incidence and impacts of displacement are mixed. Studies from around 2010 found that households were unable to access food as easily after displacement as before displacement. Milimo et al., cited in Van Der Werf (2011), found that the households forced to relocate following the transfer of church land to an investor suffered from increased hunger, as they were unable to farm the new areas as successfully as they could their former land. Similarly, a study by the Zambian Land Alliance of a displaced community cited in Oakland Institute (2011) found that, following relocation, households were able to produce only 25–50 per cent of the crop volume they previously could. This report also documented cases of households becoming physically disconnected from public services, including schools, and losing access to both food and fuel from forests.

These findings are echoed in some of the more recent studies on the immediate impacts on displaced people. Looking at the impact of a mining concession (KML) that involved the conversion of customary land to statutory land, Chu and Phiri (2015) find that the lack of clear policy guidelines for large-scale land-based projects has resulted in high social risks to the community.⁶ Similarly, Nolte (2014), in her qualitative study based on interviews with key informants in the land sector, finds anecdotal evidence of displacement occurring and notes that only in those cases where forced expropriation occurred is compensation mandatory; in other cases, the amount of compensation that affected households receive depends on the generosity of investors, the bargaining power of the community, or discretionary interventions by local or national government officials. As a result, it is not uncommon for households to receive no or little compensation for lost land. In addition to a lack of compensation for forgone land, affected households complain that they have not received compensation for destroyed trees and crops. However, interviews also reveal that a substantial number of households are sanguine about the impact of LSLAs, especially the employment opportunities they generate and, in a small number of cases, the fact that they provide infrastructure, access to farm equipment, and information on farming techniques.

Positive spillovers?

Several other studies (both qualitative and quantitative) focusing on individual cases or a subset of cases have found no evidence of displacement, but also no positive impacts on surrounding households' welfare.

- Chu (2013), studying the impacts of an investment on a brownfield site in the Mkushi farm block, found no evidence that the acquisition had led to the displacement of local communities, but neither did it deliver the large number of jobs that had been originally promised.
- Looking at the spillover effects of 95 LSLAs on neighbouring communities of smallholder farmers, measured at district level, Sipangule and Lay (2015) found that the presence of LSLAs had no discernible negative effect on the smallholder economy: it depressed neither output prices nor wages. On the other hand, the presence of an LSLA in a district did not lead to higher labour prices or technology spillovers or increase the availability of agricultural inputs for smallholders beyond what counterparts in other (non-LSLA destination) districts received.
- Mujenja and Wonani (2012), studying the impacts of industrial-scale commercial agriculture schemes set up in the 1970s, found that, while these had provided jobs and other benefits to the local economy, local communities were also becoming increasingly land constrained due to population growth. This had led to landlessness.
- In focus group discussions carried out for this paper, farmers in Northern and Luapula Provinces confirmed that Chiefs may displace locals without any form of compensation, as they have power over the land in the area.

⁶ KML took steps to initiate a Resettlement Action Plan in conjunction with a group that consisted of the District Commissioner, the Chief, community members, and an external consultant. Chu and Phiri (2015) report that KML believed this process was working well and gave community members the opportunity to provide input into, and amend, the resettlement and compensation process. The resettlement plan KML produced identified a site in Shinengene of 2,600 ha that would be used to resettle 566 households. However, disagreements emerged: KML wished to provide displaced households with land titles, but the local authorities objected.

5 Discussion

The above findings suggest that, in the absence of both a clear, widely understood legal framework and rules and procedures for resettlement and compensation that provide agency to affected community members, there is a risk that rural households will be left in a worse position as a result of resettlement. Since at present there is neither a comprehensive legal framework nor public institutions with a clear mandate to guide the process of resettlement and compensation, key decisions regarding these issues fall to individual investors. The attention and resources they dedicate to these issues depends upon their own policies, resources, and reporting requirements, as well as, critically, on their knowledge of these issues.

In the case of one investment—by Amatheon Agri—the company followed the operational procedures of the World Bank and the IFC’s Performance Standards to formulate resettlement packages for households displaced by their operations, which included giving some of the households a degree of choice over where they would be resettled to, and the provision of title deeds (Chu and Phiri 2015). The process to decide who would be displaced involved consultation only with Chiefs and Headmen, and the households facing displacement did not appear to have any choice in the matter (Chu and Phiri 2015). This suggests that there continues to be space for investors to improve practices, but also for the government and traditional authorities to play a more active role in ensuring that decisions regarding resettlement are built on close consultation with community members.

5.1 Potential costs of responsible investment

The discussion above suggests that under the current institutional set-up, the costs of accessing land for investors are systematically undervalued, and households that incur physical or economic displacement bear the costs associated with low-priced land. In order to assess the range of what might be considered ‘responsible’ investment, under which replacement costs for lost land, housing, and economic activity are provided, we review the sums paid under recent resettlement schemes financed by different types of investor (Appendix A). Indicative figures from investors acting in line with IFC and World Bank guidelines suggest that the costs of replacement farmland and resettlement packages are unlikely to be prohibitively high,⁷ and, not surprisingly, that the unit costs of compensation are lower on sites with lower population densities. Where companies have taken a proactive approach to avoid displacement, such as Amatheon (Chu and Phiri 2015), this reduces the amount they need to pay. While these costs do not include the costs borne by the company for ongoing consultation and one-off payments to communities (e.g. in the event of disasters), it appears likely that even including these will not fundamentally change the underlying profitability of the business model.

6 Concluding remarks

The overall picture provided by the discussion above is that relying on a large-scale land investment to meet a fast and sustained growth in demand for biofuels poses considerable risks if current practices are applied in the same manner as they have been recent years. Critical steps and decisions, including the identification of suitable land, are taken without consultation with those

⁷ The costs of providing alternative land are estimated at around US\$550/ha and the total cost of resettling a household appears to be in the region of US\$2,100–3,000, depending upon what it is included in the package.

who will be directly affected. Likewise, when resettlement plans and compensation guidelines are drawn up, this is often done without the involvement of those who will lose land and need to move. The prevalence of these processes suggests that an attempt to scale up biofuel production by converting large areas of (customary) land carries risks of leaving local households worse off than before their relocation. This suggests that the areas most suitable for expansion will be those with low populations and population densities, in order to minimize physical and economic displacement.

In addition, efforts to promote large-scale farming should prioritize areas of statutory land, where this is available. This suggests that any large-scale production should first occur in farm blocks, where the government has followed a process of acquiring land, raising the likelihood that there will be a more established process for resolving other claims to land. The Farm Block Program plans to have 850,000 ha at its disposal, which should be explored first. However, findings from earlier studies, including those on farm block sites, suggest that these are not always free from encumbrances and that undertaking proper consultation on this land and following best practices for resettlement and compensation is necessary. It is also clear that there is a need for greater guidance to investors on how to consult and compensate households prior to transferring land and resettling landholders.

Finally, there is a need for more proactive and regular monitoring by government during and after land transfers to ensure that households that have relocated have the means to sustain themselves and have access to economic development opportunities. As traditional authorities have a large amount of discretion in decisions about these processes, there is a need to ensure that traditional authorities follow stipulated practices. Building capacity in—and relying on—civil society entities such as paralegals could assist in monitoring efforts.

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Appendix A: Costs of resettlement on brownfield and greenfield sites in Zambia

Table A1: Examples of total costs of displacement of households

Site	Kafubu Farm	Amatheon Agri	Kalumbila Minerals	Chiansii Irrigation Project	MMC*	Skills Development and Entrepreneurship Project *
Site/household characteristics	Farming households with & without title	Farming households 'squatting' on statutory land	Mainly agricultural households on customary land	?	Mix of farming and non-farming households on customary land	Mix of farming and non-farming households on customary land
Number of displaced households	54	43	570	20	85	27 (145 people)
Hectares of land acquired	2,764	14,237	50,000	1,575		10.8
Population density on farm property (ha/displaced households)	51	331	9	79		0.4
Total funds designated (US\$)	140,000	94,440	11,000,000	80,148	172,176*	516,459
Total cost per household (US\$) ⁸	2,592	2,196	19,298	4,007	2,025	19,128
Cost per hectare (US\$)	50.6	6.6	220	50.8	--	N/A

* Does not include the cost of land.

Source: Author's compilation based on Greenline Environmental Solutions (2015); Makano (2015).

⁸ Does not necessarily equate to the amount paid to each household. In some cases, this may be the total sum reported to be put aside for compensation.

Table A2: Sample costs of acquiring land for large-scale investments for farming

Type of cost	Characteristics	Unit cost (\$US)	Year reported	Source
Land	Non-arable dryland (agricultural)	1,800	June 2014	Telegraph (2014)
	Bare land (no infrastructure) with a title	500	June 2014	Telegraph (2014)
	Irrigated land with dams	8,000	June 2014	Greenline Environmental Solutions (2015)
Compensation	For displaced households with title (as per valuation)	523	Dec. 2015	Greenline Environmental Solutions (2015)
	For land occupied by 'squatters' (per ha)	523	Dec. 2015	Greenline Environmental Solutions (2015)
	For housing on land (per unit)	3,000	Dec. 2015	Greenline Environmental Solutions (2015)
	For fruit trees (per unit)	40 (per unit)	Dec. 2015	Greenline Environmental Solutions (2015)
	One year's harvest	@ market rate	Dec. 2015	Greenline Environmental Solutions (2015)
	Relocation assistance (per household)	70	Dec. 2015	Greenline Environmental Solutions (2015)

Sources: Greenline Environmental Solutions (2015); Telegraph (2014).

Table A3: Costs associated with the purchase of different types of farm

	Greenfield	Brownfield
Cost of purchasing farm on statutory land from owners	No	Yes (private)
Payment for ZDA's consultation and approval process	Yes (private)	Unclear from ZDA guidance
EIA	Only if resettlement required	Unclear from ZDA guidance
Payment for land from customary authorities	Yes	No
Payment for conversion of land to statutory land	Yes	No
Compensation for landholders	Yes (either purchase of alternative land or monetary compensation)	N/A
Compensation for renters	Not mandatory; depends on company	Not mandatory; depends on company
Resettlement action plan, including costs of coping mechanisms, establishing new enterprises	Not mandatory; depends on company	Not mandatory; depends on company

Source: Author's compilation based on Nolte (2014); Chu and Phiri (2015).