



The vulnerability and resilience of smallholder-inclusive agricultural investments in Tanzania

Jennifer J. West & Ruth Haug

To cite this article: Jennifer J. West & Ruth Haug (2017) The vulnerability and resilience of smallholder-inclusive agricultural investments in Tanzania, *Journal of Eastern African Studies*, 11:4, 670-691, DOI: [10.1080/17531055.2017.1367994](https://doi.org/10.1080/17531055.2017.1367994)

To link to this article: <https://doi.org/10.1080/17531055.2017.1367994>



© 2017 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 30 Aug 2017.



Submit your article to this journal [↗](#)



Article views: 479



View related articles [↗](#)



View Crossmark data [↗](#)

The vulnerability and resilience of smallholder-inclusive agricultural investments in Tanzania

Jennifer J. West^{a,b} and Ruth Haug^b

^aCenter for International Climate Research (CICERO), Oslo, Norway; ^bDepartment of International Environment and Development Studies, Norwegian University of Life Sciences, Ås, Norway

ABSTRACT

This paper compares and contrasts two cases of smallholder-inclusive agricultural investment in Tanzania and investigates the factors that shape their vulnerability and resilience to risks and uncertainties that influence their performance and viability as a development strategy. Drawing on observations and interviews with smallholders, key informants and management and staff of two large-scale rice and sugarcane estates, we discuss how the division of ownership, voice, risks and rewards in these investments affect how small- and large-scale producers negotiate their relationships in practice, highlighting the role of the state and political economy factors in shaping these dynamics. We find that a lack of transparent and reliable policies and mechanisms for governing access to land, resolving contractual disputes, and marketing the crops in question reinforces power asymmetries between the participants, undermining the potential development impacts of both investments. The two estates moreover appear to enjoy different levels of state protection that render their commercial operations more or less vulnerable and resilient to various political and economic risks. We conclude that smallholder-inclusive agro-investments in Tanzania are unlikely to fulfil both a commercial and a development function in the absence of consistent, transparent and enforceable ‘rules of the game’ that incentivize and reward responsible agricultural investment behaviour.

ARTICLE HISTORY

Received 18 March 2016
Accepted 22 July 2017

KEYWORDS

Agricultural investment; development; Tanzania; vulnerability; resilience; political economy; governance

The potential for agricultural investments to transform rural communities, economies and the environment – for better or worse – is widely recognized.¹ The ‘right’ kind of agricultural investments may provide opportunities for smallholder farmers to access employment, agricultural production technologies, skills and training, and connect them to inputs, credit and markets.² But agro-investments may also be directed in ways that transform agriculture towards large-scale farming and deprive smallholder farmers and rural communities of access to land, water and other natural resources, and constrain local decision-making power, result in uneven economic development and heighten smallholders’ vulnerability and marginalization from development processes.³

CONTACT Jennifer J. West  jj.west@cicero.oslo.no

© 2017 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

This paper contributes to ongoing discussions about how to direct agricultural investments in ways that reduce rural poverty and vulnerability, improve smallholder livelihoods and contribute to national economic development goals.⁴ At the international level, recognition that agricultural investments carry both opportunities and risks for smallholder farmers, rural communities, investors, governments, and the environment has resulted in efforts to develop guidelines and principles for directing agricultural investment in more inclusive and responsible ways.⁵ Contract farming (CF) arrangements have been proposed as one form of agricultural investment that may ensure that smallholders and communities benefit from agricultural commercialization efforts.⁶ A range of definitions of CF exist. According to the Rural Finance Learning Center, CF refers to:

[...] agricultural production carried out according to an agreement between a buyer and farmers, which establishes conditions for the production and marketing of a farm product or products [...] Another term often used to refer to contract farming operations is 'out-grower schemes', whereby farmers are linked with a large farm or processing plant which supports production planning, input supply, extension advice and transport.⁷

This paper compares and contrasts two cases of CF in Tanzania that form part of the latter definition of CF: outgrower (OG) schemes, which combine agricultural production and processing on a 'nucleus' estate with production by smallholders on their own land. Our objective in doing so is to determine whether and under what conditions smallholder-inclusive agro-investments such as OG schemes can achieve their commercial and development goals in practice. The two schemes are located in Morogoro Region, within the designated Southern Agricultural Growth Corridor of Tanzania (SAGCOT), where the government is promoting a mixture of small-, medium- and large-scale agricultural production and inclusive investment approaches such as OG schemes, that combine them.⁸ A comparative case study research design was employed to understand the role that the two schemes play in local livelihoods and risk management strategies, and to assess the factors that shape the vulnerability and resilience of the relationships between the estates and smallholders to uncertainties and the potentials and limitations of OG schemes as a rural development strategy. The findings draw on long-term fieldwork during which participant observations and interviews were undertaken with commercial estate owners, smallholder OGs, non-participating smallholders, surrounding community members, and key informants in a wide range of formal and informal settings.

The paper's topic has both practical and policy importance in a context where agriculture forms the backbone for rural employment, incomes and food security in Tanzania, and constitutes a cornerstone of national development policies and efforts.⁹ It is also a salient topic in light of the fact that smallholders dominate Tanzania's agricultural production, and that high-profile agricultural investment initiatives in Tanzania, including the SAGCOT and Big Results Now (BRN) are promoting OG schemes as a way to modernize and commercialize the agricultural sector. SAGCOT¹⁰ is an ambitious public-private agricultural commercialization partnership that was initiated by former Tanzanian President Jakaya Kikwete in 2010 and is promoted as a flagship programme of the government's 'Kilimo Kwanza' (Agriculture First) declaration.¹¹ BRN aims to replicate the so-called 'Malaysian development model' in Tanzania and targets multiple sectors, including agriculture. It emphasizes cross-sectoral planning, and employs a 'laboratory' approach to overcome key bottlenecks constraining production and marketing of prioritized crops.¹²

Both initiatives are heavily promoting commercial partnerships such as OG schemes between small- and large-scale farmers, as having 'win-win' potential to reduce rural poverty and contribute to inclusive and sustainable national economic development.¹³

But despite the optimism expressed in the official documents that are promoting smallholder-inclusive investments in SAGCOT and BRN, research suggests that Tanzania's agricultural sector faces myriad challenges. A lack of coordination among existing donor, government and private sector initiatives targeting agriculture and shortcomings in implementing and achieving results from ongoing agricultural development programmes and policies, including the Agricultural Sector Development Programme (ASDP), Tanzania Agriculture and Food Security Investment Plan (TAFSIP), and Kilimo Kwanza initiatives, and tensions between the goals of various policy initiatives, have been highlighted as major overarching concerns.¹⁴ Moreover, while the country's economy has recorded impressive growth during the past years, averaging about 7%, this has not translated into reduced poverty or greater food or nutrition security for Tanzania's citizens.¹⁵ Poverty remains endemic in rural areas, smallholder farmers lack access to basic agricultural inputs and to credit, agricultural productivity is low, and land-holdings are small and fragmented.¹⁶ Market prices for agricultural produce are moreover highly variable,¹⁷ and agricultural production depends overwhelmingly on seasonally and spatially variable rainfall that exposes farming households to climatic risks such as droughts and flooding.¹⁸ Climate change is expected to augment climate variability and to act as a 'threat multiplier',¹⁹ adding to the adaptation deficit in the agricultural sector, and exacerbating smallholder farmers' vulnerability.²⁰ These challenges form an important backdrop for understanding the potentials and limitations for inclusive agricultural investments in Tanzania to improve smallholder livelihoods, reduce rural poverty and contribute to national economic development efforts.

Background and conceptual framework

The paper applies and extends insights from the literature on vulnerability and resilience in developing countries, which has typically focused on smallholders and rural communities, to agricultural investments involving large-scale commercial agricultural producers. In the global environmental change literature, 'vulnerability' is considered to be a function of exposure and sensitivity to shocks and risks, and the capacity to cope with and adapt to them.²¹ Vulnerability is dynamic and contextual, varies within and between households and communities, and is shaped by societal structures and processes of change that influence the distribution of power, resources, poverty, inequality, and social, economic, political and ecological marginalization within society.²² Many vulnerability studies in Africa focus on smallholder farmers and livestock keepers, due to high rates of poverty in rural areas, smallholders' high dependence on rain-fed agriculture and climate-sensitive natural resources, and underlying processes of social, economic and political inequality that reduce rural peoples' abilities to cope with and adapt to social, economic and environmental adversity.²³ From this perspective, smallholders may be considered 'victims' of global social, economic and environmental processes of change that are driving both agricultural investments and climate adaptation (and mitigation) efforts, and which create unequal patterns of 'winners' and 'losers'.²⁴

A contrasting perspective is that smallholders and rural communities are resilient and adaptable to change.²⁵ This view has been substantiated by ethnographic and anthropological studies of rural communities and farming systems, which highlight that women and men smallholders possess extensive local knowledge, experience and skills, and that they demonstrate considerable agency, ingenuity and creativity in seizing opportunities and crafting livelihoods amidst dynamic, and often difficult, social, political and environmental circumstances.²⁶ While the concept of resilience has diverse scientific roots, it has gained widespread popularity in research, policy and practitioner communities in recent years.²⁷ Resilience has to do with the capacity and ability of social and ecological systems to withstand and 'bounce back' from disturbances, shocks and adversity, and is concerned with issues of adaptation and feedbacks within dynamic, complex, non-linear and non-equilibrium socio-ecological systems.²⁸

The concepts of 'risk' and of 'governance' cut across the literatures on rural vulnerability, resilience and responsible and inclusive agricultural investment. Risk management is central to agricultural production, whether it is undertaken by small, or large-scale units, and is a key aspect of inclusive agricultural investments such as CF.²⁹ This paper adopts a definition of risk that embodies the potential for losses as well as benefits, as expressed in the 2014 World Development Report, where the authors argue that although

[m]uch of the emerging literature on risk in a development context emphasizes the important role that risk management can play in increasing resilience to negative shocks ... risk management also has an essential role in helping people and countries successfully manage positive shocks ... Thus the goal of risk management is both to decrease the losses and increase the benefits that people experience when they face and take on risk.³⁰

Research on CF and OG schemes that incorporate smallholders into the business through contracts forms a central component of risk management. Indeed, Vermeulen and Cotula (2010) highlight that sharing of 'risks and rewards' is a key aspect of inclusive agro-investments such as CF. In the new institutional economics (NIE) literature, contracting is seen as a way to overcome the market imperfections and coordination failures that characterize rural economies in developing countries.³¹ Contracting may lower the costs and risks that smallholders face in accessing agricultural markets, inputs, services and information while ensuring the firms that purchase and process smallholder crops with a reliable supply of raw materials.³² CF and OG schemes may increase grower incomes and offer higher wages and better working conditions than local growers offer.³³ In addition, OG schemes offer a politically attractive alternative to large-scale foreign direct investments in land, such as those historically associated with the plantation system under colonial rule, and with the contemporary phenomena of 'land grabbing' in Tanzania and other countries.³⁴

The Principles for Responsible Investment in Agriculture and Food Systems, adopted by the Committee on World Food Security in October 2014 (hereafter referred to as the CFS-RAI principles), emphasize that states have a key role to play in governing agricultural investments in transparent, inclusive and accountable ways.³⁵ Transparency and accountability are emphasized especially in connection with processes for accessing land and other resources, which are highly contentious in Tanzania.³⁶ From a political economy perspective, the potential for smallholder-inclusive agricultural investments to reduce rural poverty and contribute to sustainable economic development hinges crucially on whether or not the Tanzanian state has the capacity and is politically motivated to

implement pro-poor agricultural investment and development policies.³⁷ Assessments of the Tanzanian government's performance in implementing past and current national agricultural policies in transparent, inclusive and accountable ways and in the interests of broad-based poverty reduction are, however, disappointing.³⁸ Key concerns that have been highlighted include the fact that smallholders regularly lack a 'voice' in national agricultural policy and decision-making processes, that Tanzania is highly dependent on donors to finance its agricultural development agenda, and that there exists a persistent tension in and disconnect between official agricultural policy discourse, and practice regarding the desired role of the state- and the private sector in agricultural investment and development efforts.³⁹

Research sites and methods

The authors undertook primary fieldwork during 15 months in the period 2010–2014. The research focused on two large agricultural estates, both located in Morogoro Region – Mtibwa Sugar Estates Limited (MSE) and Kilombero Plantations Limited (KPL), and on two villages located adjacent to the estates. The two estates were chosen because they are located within the region that has been targeted by the SAGCOT and BRN initiatives, and because the crops that they produce and process – rice and sugarcane – are considered to have strategic potential to contribute to national economic development efforts by displacing imports.⁴⁰

MSE and KPL estates are both located in flat valleys at the foot of mountain ranges that form part of the Eastern Arc Mountain chain at between 250 and 350 metres above sea level, and border wetlands that are subject to seasonal flooding. They were both originally developed and managed by the public sector, but differ along a number of dimensions, which are summarized in [Table 1](#). At the time of fieldwork, the two nucleus estates were cultivating between 5000 (KPL) and 5400 ha (MSE) of rice and sugarcane (MSE), in addition to purchasing varying quantities of rice and sugarcane from smallholders in surrounding communities. The OG scheme at KPL was at a piloting stage at the time of the fieldwork, while the MSE OG scheme has existed formally since 1996.⁴¹

The data collection and analysis were guided by three key research questions: First, how are ownership, voice, risks and rewards shared in the two schemes? Second, what risks do MSE and KPL estates face, and how do these risks influence the dynamics of vulnerability and resilience in their commercial partnerships with smallholders? And finally, how do governance and political economy factors shape these dynamics and what does this suggest about the viability of OG schemes as a rural development strategy in Tanzania?

Participant observation of smallholder agricultural practices in Lungo village, bordering MSE, and observation of farmer trainings in Mkwangawalo village, bordering KPL, formed the entry point for the research. Repeat qualitative interviews were undertaken with management and staff of KPL and MSE and OG farmer associations, extension officers, service providers and key informants over time in various settings, and a range of grey literature connected to the investments was reviewed. At the smallholder level, 142 semi-structured interviews were undertaken with 80 OG and 62 non-OG households in Lungo and Mkwangawalo villages with the help of 2 local interpreters. [Table 1](#) provides further details about these interviews. Households in Lungo were selected following enumeration and participatory wealth ranking of all households in the village by knowledgeable residents

Table 1. Overview of MSE and KPL smallholder schemes and village-level fieldwork.

Key variables	MSE	KPL ^a
Crop produced/processed	Sugarcane	Rice
Size of nucleus estate (ha)	6400 total; 5400 under cultivation in 2011/2012 ^b An additional 1300 ha were under cane production at 'Dakawa Estate' in 2011/2012	5818 total, of which 318 ha ceded to project affected persons leaving 5429 ha gross farm area, of which 5000 ha were under cultivation in 2011/2012
Established (privatized) OG/smallholder scheme established	1939 (1999) 1996/1997	1986 (2008) 2011/2012 ^c
Current ownership	TSIL, a private domestic investor	Joint venture between ATL, ^d RUBADA, ^e Norfund, ^f Capricorn ^g and AgDevCo ^h
Past Ownership structure	Government parastatal	Joint Venture (50%/50%) between the Government of Tanzania and the Government of North Korea
Number of OGs/ smallholders	5795 registered OGs, of which 2754 delivered cane in 2009/2010	7200 farmers trained in SRI production methods through 2015; 803 of these received production loans to be serviced in cash and repayed in paddy at agreed prices
Employment generated	1300 permanent workers 2200 seasonal workers (7 months per year)	271 permanent employees 848 part-time workers
Location, distance to nearest town and means of transport	Mvomero District, Morogoro Region 102 km North of Morogoro Town Secondary Road	Kilombero District, Morogoro District 80 km SouthWest of Ifakara Town; 450 km from Dar es Salaam Secondary Road and Railway
Milling capacity and processing infrastructure	Factory with installed crushing capacity of 150 tonnes/hour (3000 tonnes/day) and cogeneration power plant with maximum 11.5 MW power output	2 × 6-tonne/hour industrial rice mills 3000 tonne automated cleaning and drying facility 500 KW biomass gasification plant Refurbishment of 320 KW mini-hydro station
Water source, extraction rates and type of irrigation	Wami River for sprinkler and 'big gun' irrigation of the estate (3.5 m ³ /second maximum allowable extraction rate); Diwali River for factory operations (1.5 m ³ /second allowable extraction rate)	215 ha trial under pivot irrigation in 2012 with plans to expand pivot irrigation to 3036 ha. Water licence for 72,524 m ³ /day 'average' abstraction from Mngeta River was obtained in 2014, with estimated maximum extraction of 2.11 m ³ /s. Supplemental irrigation via borehole/groundwater as needed
Household interview sample and selection methods	50 households from Lungo village (185 households total), comprising 29 OG and 21 non-OG smallholder households of different wealth categories	92 households from 2 sub-samples of Mkangawalo village (2150 households) comprising (i) 34 non-SRI households of different wealth categories from Kidete and Mgudeni sub-villages (490 households) and (ii) 58 of 102 SRI-trained households from Kidete, Mgudeni, Ilole and Idulike sub-villages

^aMore information on KPL is available at: <http://www.agrica.com/html/project1.html>.

^bMSE, 'Company Brief'.

^cFifteen farmers from Mkangawalo village received SRI training in 2010. Two-hundred and fifty additional farmers from 6 villages were trained in 2011, and in 2012, the programme was scaled up to reach 1200 farmers.

^dSee: Agrica webpage: <http://www.agrica.com/html/background.html>.

^eKayonko, 'External Review'.

^fThe Norwegian Investment Fund for Developing Countries.

^gCapricorn is a US-based impact investment fund that manages the assets of the Skoll Foundation and Jeff Skoll.

^hAgDevCo is a UK-based social impact investor and agribusiness developer working in Africa.

according to local criteria.⁴² The Lungo household sample reflects the relative population and distribution of households of different wealth categories in different sub-villages. In Mkangawalo village, wealth ranking was undertaken in Kidete and Mgudeni sub-villages, which offer contrasts in terms of their proximity to the main road, markets and Udzungwa Mountains relative to the floodplain. Here, interviewed households that did not take part

in the System of Rice Intensification (SRI) training (non-OG households)⁴³ reflect the approximate distribution of wealth categories and livelihood contexts in the two sub-villages. SRI-trained households (OG households) were drawn from Kidete, Mgudeni, Ilole and Idulike sub-villages and are overrepresented in the household sample, relative to their share of the population. Follow-up interviews were undertaken with 25 of these SRI farmers in 2012/2013 and 2013/2014 to gauge households' experiences in applying the training and participating in the nascent OG scheme. Additional insights were gained from informal interactions and observations with smallholders and estate staff during long-term periods of residence in and near both villages. Short visits were also made to other rice and sugarcane estates and smallholder schemes in order to contextualize and triangulate the research findings.⁴⁴

A tale of two estates and their smallholder schemes

At the start of the fieldwork, MSE and KPL estates and their partnerships with smallholders were described by media and key informants as representing contrasting pictures of responsible agricultural investment in the SAGCOT region. An initial visit to MSE in 2010 coincided with protests by angry farmers who had lit the estate cane on fire in defiance of the ruling government party, CCM's⁴⁵ presidential election campaign that was touring with loudspeakers at the time of the visit. A year later, the KPL estate was visited by former Tanzanian President Kikwete, who toured the 'model' investment and delivered a speech about the government's intention to launch the SAGCOT initiative in Kilombero District.⁴⁶ However, subsequent fieldwork revealed that there was a disconnect between the popular portrayal of the two agricultural estates, and the ways in which smallholders and MSE and KPL were navigating their relationships in practice. In short, despite being perceived to be an open and transparent investor, having an inclusive and responsible social and environmental investment profile on paper, and having succeeded in training farmers and increasing their rice yields, the KPL smallholder OG scheme was still not operational at the time of writing. Conversely, while our initial impressions of MSE had painted a picture of a 'dying industry', the reality on the ground defied this description. Widespread complaints among OG farmers, their associations, and surrounding communities regarding low cane prices and a lack of transparency and accountability in the relationship between smallholders and the estate notwithstanding, the MSE OG scheme 'persisted' in a form that respondents considered to be economically and socially sub-optimal. Although our initial impressions had suggested that the nascent commercial relationship between KPL and smallholders was socially, economically and politically 'resilient', while that at MSE was 'vulnerable', further research suggested the opposite to be the case. We elaborate further on these findings below.

Navigating ownership, voice, risks and rewards

Long-term research suggests that the dynamics of vulnerability and resilience in the relationships between KPL and MSE estates and smallholders are connected to how ownership, voice, risks and rewards are perceived, shared and navigated in the schemes. [Table 2](#) summarizes these four dimensions of 'inclusiveness'.⁴⁷

Table 2. Ownership, voice, risks and rewards, MSE and KPL OG schemes.

Dimensions of inclusiveness	MSE	KPL
Ownership	TSIL is owned by the Super Group of companies. Its subsidiary, SuperDoll Trailers Manufacturing Company Ltd, controls 40% of the shares in MSE, while Super Star Forwarders Company Ltd, ^a Super Motors Company Limited and Super Service Centre Company Ltd, each control 20% of the shares. ^b The principle owners of these companies are two Tanzanian brothers, Nassor Seif and Seif A. Seif	ATL is a subsidiary of Agrica Limited, Great Britain, which is registered in Guernsey. Current investors in Agrica include Capricorn Investment Group; Norfund, the Norwegian Investment Fund for Developing Countries; and UK-based AgDevCo, a social impact investor and agribusiness developer. KPL's smallholder scheme has received support from Norfund, the USAID NAFAKA ^c programme and the African Enterprise Challenge Fund
Voice	30-page CSA stipulates <i>inter alia</i> cane price and division of proceeds. OG is in a weak bargaining position in relation to MSE due to the fact that the market is a monopoly and MSE is the only buyer of cane. Cane burning ('malicious fires') and factory lock-downs are used as informal bargaining tactics. ^d Husbands and wives register in different OG associations and households 'votes' with their memberships. OG associations have successfully lobbied the government for reductions and or removals of levies and taxes on cane production, and negotiated informal amendments to contractual agreements and payments (regarding rendement) with MSE in specific cases. OGs are actively lobbying the government to establish a new factory that would compete with MSE	The 2-page purchase contract for 2012 and 2013 specifies a fixed paddy price, the terms of repayment for the production loan issued to SRI-trained farmers, and the rice variety, and agricultural inputs and rice management practices smallholders should employ. Smallholders' bargaining power is relatively stronger than at MSE due to the existence of the parallel local rice market. Smallholders negotiated a paddy price that was upward of what KPL had initially offered in 2012, due to higher prices in the local market than what had been agreed on in the contract. In 2013, they were paid above the local market price despite the steep decline of local rice prices following government sanctioned imports of duty-free rice
Risks	Factory efficiency problems and frequent breakdowns, poor road infrastructure, cane harvesting and transport activities are vulnerable to flooding; low yields among OGs due to low cane prices and late payments which discourage active and timely management and investment in cane farms; economic and environmental risks and costs associated with developing 'Dakawa Estate'; Saline soils; perceptions of poor management and low staff morale at MSE; allegations of political patronage and high-level political protection	High start-up costs; dependence on double cropping to be profitable; poor road infrastructure; vulnerable to importation of cheap, duty-free rice; bureaucratic delays in delivering investor tax exemptions and imported equipment and products; absence of pest and disease control research; predatory district taxation (crop CESS); reputational and local political risks associated with relocation and OG scheme; lacks actionable political protection, despite its status as a 'flagship' SAGCOT investment
Rewards	Contributes to savings in foreign currency through production of sugar for local markets; 6.8 billion TSH in OG revenues in 2007/2008; local employment benefits; investments in road, education and health infrastructure; sponsors sports and cultural activities; by 2009, the company had invested 1,436,100,000 TSH in maintaining and constructing roads, 87,375,000 TSH in construction of schools, dispensaries and a health clinic and 50,500,000 TSH in providing clean drinking water to villages ^e	Contributes to savings in foreign currency through increased domestic rice production; \$639,000/year in net local salaries and benefits; employment benefits; \$150,000 Community Development Fund for villages that border the farm; Health Centre that provides \$60,000/year in subsidized health services to communities; SRI training provided to 7200 smallholders in 10 surrounding villages since 2010 ^f

Note: USAID, United States Agency for International Development.

^aSuper Star Forwarders Company Ltd and Superdollar Trailer Manufacturing Company Ltd are related by common shareholding held by Nassor Seif (67%) and Seif Seif (33%), see <https://disclosures.ifc.org/#/projectDetailSII/4328>. Superdollar is a leading manufacturer of high-end Doll trailers and tankers and exclusive dealer of Michelin Tyres in Tanzania. Key customers include Tanzania Breweries, a subsidiary of SAB Miller and Coca Cola. Superstar is a logistics services company in Tanzania with exclusive Total and Coca Cola contracts and relationships with other large companies. See: <http://www.superdollar-tz.com/ssf.html>.

^bMSE, 'Training Needs Assessment', unpublished.

^cThe NAFAKA Staples Value Chain Activity is a \$30 million project funded by USAID under the Tanzania Feed the Future (FtF) Initiative aimed at improving smallholder productivity and profitability within the maize and rice value chains in selected regions of Tanzania.

^dThese tactics were reported by OGs and MSE and observed during fieldwork. See Matango, 'Mtibwa Outgrowers Scheme', 23; MSE, 'Company Brief', 5–6.

^eAssess Consulting, *Audit*.

^fVarious unpublished and internal KPL reports in the author's possession. KPL, 'Agrica Response'.

Ownership and voice

MSE was established in 1939 as a sisal farm and passed through numerous owners before being privatized in 1999⁴⁸ when it was sold to Tanzania Sugar Industries Ltd (TSIL), a local company incorporated in Tanzania (see Table 1).⁴⁹ The owners have since acquired a title to an additional 30,000 ha of land known as 'Dakawa Estate' that is located approximately 60 kilometres from the main estate, on land that was previously owned by the government. Twenty thousand hectares of this land have been earmarked for irrigated sugarcane production.⁵⁰ KPL estate was developed in 1986 as a parastatal joint venture between the governments of North Korea and Tanzania.⁵¹ It ran into financial problems and was liquidated in 1993, after which time it reverted to the Rufiji Basin Development Authority (RUBADA).⁵² Thereafter it was leased to a variety of tenants who failed to fully develop the farm until 2008, when Agrica Tanzania Limited (ATL) purchased majority shares in the farm, and it became a public-private partnership between Agrica (owning 92% of the shares) and RUBADA (owning 8% of the shares).

While both estates were established before debates on 'land grabs' and conflicts over land had reached their current heights, recent years have seen increasing immigration of farmers and pastoralists into Morogoro Region. Although KPL estate (when it was originally developed as KOTACO) was established on land outside of the legal jurisdiction of the villages, as per the national land laws, it was never fully developed and, consistent with village by-laws, a number of smallholders moved onto and began to farm the land.⁵³ The owners and managers of KPL contend that it abided by World Bank resettlement guidelines when relocating and compensating project affected persons.⁵⁴ However, the details and outcomes of resettlement are contested by smallholder farmers and leaders in nearby villages, and have led to claims that KPL represents the opposite of responsible agricultural investment.⁵⁵ At MSE, several respondents noted that the development of Dakawa Estate may lead to conflicts with pastoralists whose grazing lands have already been reduced by the establishment of the nearby Wami Mbiki Game Reserve.⁵⁶ The new concession moreover consists of wooded and forested land that must be cleared, and according to a knowledgeable informant, the sandy soils of the concession make it unsuitable for irrigated cane production. Key informants noted that MSE's acquisition of Dakawa Estate is likely to reduce the estate's dependence on OG cane and further undermine its willingness to invest in developing and maintaining a good rapport with OG farmers. Neither the government nor smallholders retained shares in the company when it was privatized, which further weakens OG voices in decisions that concern them. Key informants noted that the government promised to sell a portion of the shares to OGs, who raised money to do so, but the money was returned with no explanation.⁵⁷

Smallholders' 'voice' vis-à-vis the estates is connected to their collective lobbying and bargaining power in contractual negotiations and agreements with the estates. Contractual arrangements at MSE are governed by the Cane Supply Agreement (CSA) that is negotiated by the estate and the 2 OG associations⁵⁸ that serve the approximately 5000 OGs in 34 villages that surround the estate. The CSA for the period 2009–2011 details the price, which is based on the rendement (sugar content) and volume of cane delivered, and the method of price determination between estates and OGs. The fact that MSE is the only buyer and processor of farmers' cane reduces OGs' bargaining power. Compared to the sugar market, which is characterized by monopsony, the domestic rice market is

Table 3. Number of OGs delivering cane to MSE and amounts and share of total cane delivered, 2000–2011.

Season	Lungo village			All villages (n = 34)		
	Number OGs delivering cane	Tonnes cane delivered	Share of total OG cane delivered (%)	Number OGs delivering cane	Cane delivered (tonnes)	OG share of cane delivered (%)
2000/2001	160	7466	6	1778	120,144	35
2001/2002	315	23,109	11	2907	207,854	46
2002/2003	367	18,768	11	3069	176,932	41
2003/2004	437	20,527	9	3544	240,047	55
2004/2005	444	13,856	6	4306	241,464	56
2005/2006	415	10,421	4	4797	259,926	51
2006/2007	155	7187	6	2288	129,624	36
2007/2008	200	9425	4	3428	230,874	45
2008/2009	285	12,145	6	4026	214,225	48
2009/2010	166	9281	5	2754	184,423	42
2010/2011	159	10,278	5	2640	190,380	40
Total (average)	(282)	142,463	(7)	(3231)	2,195,892	(46)

competitive, with multiple actors along the value chain. This considerably strengthens smallholders' bargaining power in relation to prices. Attempts by KPL to fix the prices offered to OGs based on volume of rice delivered, while keeping these slightly higher than local market prices in 2012, to reduce the possibility of side-selling by farmers, were not successful due to farmers' perceptions of the unfairness of the conversion rates. Thus, while 11 bags were originally negotiated as a set repayment rate for the loan extended to farmers for inputs and production in 2012, this had to be negotiated and reduced to 4 bags at harvest, due to the high cost of rice in the local market at that time.⁵⁹ Meanwhile, in the second season of its trial operation, the entire OG scheme was negatively affected by the government's decision to reduce the 75% import tariff on rice. The result was a slump in national rice prices that made the estate unwilling to purchase farmers' rice over and above covering the cost of repayment of production loans extended to OG farmers at the start of the season. Tables 3 and 4 provide additional information on trends in OG production of the contracted crops over time.

Risks and rewards

The risks and rewards in the schemes are related to the roles played by rice and sugarcane in smallholders' agricultural production and livelihood strategies and political economy and governance factors that shape the investments and their sub-sectors. On the smallholder side, repeat visits to Lungo village revealed that although a number of the farmers originally lamented that they intended to abandon or convert their sugarcane

Table 4. Rice farming practices among 25 SRI-trained farmers in Mkangawalo village over time.

Variable	2011/2012	2012/2013	2013/2014	Difference 2011–2014
Number of farmers using SRI methods	23	24	11	–12
Number of farmers using traditional methods	20	21	25	5
Area planted using SRI methods (acres)	49.25	44.25	13.5	–35.75 (73% decrease)
Area planted using traditional methods (acres)	96.25	125	91.5	–5.75 (9% decrease)
Average yields, SRI farms (tonnes/ha)	3.9	4.2	3.0	–0.9
Average yields, traditional farms (tonnes/ha)	2.0	2.4	2.0	–

to other crops, few in fact did so. Table 3 shows the number of OGs in Lungo delivering cane to MSE and amounts and share of total cane delivered, 2000–2011. It suggests that the number of OGs delivering cane after 2005/2006 (a drought year) has decreased only slightly, while amounts of cane delivered have remained relatively constant. Further research showed that despite its low profitability, sugarcane offers an important income security, and, to some extent helps households to mitigate climatic and market uncertainty related to cultivating food crops.⁶⁰ Sugarcane's low labour requirements are particularly important for those who are elderly, sick, and for single-headed or labour-constrained households who do not have the resources with which to hire labour to engage in rice production, which is much more labour intensive, and more vulnerable to drought compared to sugarcane.⁶¹ A female smallholder who did not own a sugarcane farm noted, 'If we had some money, we would grow a few acres of sugarcane, but not more rice, because I wouldn't manage to do all the weeding. Cultivating rice is hard work'. Rather than abandoning sugarcane, OG farmers in Lungo village were actively lobbying the government to allow for construction of a new, smaller cane factory that could act as a competitor to MSE, and petitioning to have village land allocated for that purpose.

During the fieldwork, KPL, in partnership with the United States Agency for International Development and Norfund, was providing training to farmers in surrounding villages in the SRI, a set of principles that has received international attention for its claims to dramatically increase smallholder rice yields.⁶² OG farmers who were interviewed in Mkangawalo village were initially very pleased with the SRI training that they received. Table 4 shows that farmers who participated in the training were able to roughly double their yields, compared to conventional practices. However, during follow-up interviews in 2013 and 2014, farmers complained that the production loan arrangements with KPL are exploitative and risky when crops fail due to unforeseen flooding, as was widely reported to have occurred in 2014. Farmers also indicated that they found the SRI methods to be too 'expensive' in relation to the low price offered in the market for the early maturing, short, semi-aromatic variety (SARO5) that KPL had promoted, relative to the tall and aromatic 'Supa' varieties that farmers traditionally broadcast in their fields. By 2014, only 11 of 25 farmers who were initially interviewed and received SRI training in 2011/2012 were employing SRI methods and the area planted using SRI methods had declined by more than two-thirds.

Table 2 summarizes the main operational challenges and risks facing KPL and MSE estates as commercial producers of rice and sugarcane. The risks were identified through interviews with estate staff and OGs, observations, and reviews of available grey literature and data. At MSE, key informants and MSE staff lamented a lack of skilled and trained technical staff in the irrigation department; a lack of running capital for purchasing basic office supplies and equipment; an old and outdated factory that is inefficient and suffers from frequent breakdowns; difficulty in accessing spare parts for repairs; lack of dedicated agronomic and OG departments; high costs and risks associated with developing 'Dakawa Estate'; unpredictable quantities and quality of OG cane deliveries due to 'malicious fires', the vulnerability of rain-fed OG cane to drought and flooding, poor management of smallholder cane farms; mismanagement and use of irrigation water and deterioration of canal infrastructure on the main estate leading to saline soils in some locations; poor road infrastructure, lack of sufficient harvesting capacity among OG associations, frequent changes in management and skilled staff and low morale among existing staff due to perceptions of poor management, as being key challenges that

affect the estate's commercial performance. Late cane payments to OGs and estate workers that prompted government intervention in 2014 were alleged to relate to MSE's inability to service loans obtained through international banks. Informants explained that the company is frequently delayed in paying its taxes to the District. Factory closure and harvesting difficulties in the 2011/2012 season caused sugar production to fall far below the estate's targets, and production declined to pre-privatization levels in 2013/2014, suggesting that the estate faces mounting economic difficulties.⁶³ Sugar Board of Tanzania (SBT) data shows both a substantial increase in area planted to OG cane after MSE was privatized, and a declining share of OG area harvested, compared to area planted. OG records also indicate that nearly twice as many smallholder OGs are registered compared to the number that delivered cane in 2010/2011. This suggests that OG associations and the estate are unable to harvest and/or process all of the cane that smallholders are willing and able to supply.

Speculation concerning how the estate is able to persist as a viable commercial entity was widespread during the fieldwork. Many respondents expressed a ubiquitous concern that 'the owners on paper are not the true owners'. MSE was widely rumoured to be connected to a high-level former CCM politician and his family, who reportedly owns a large cane farm in Mvomero. The overall impression gained during fieldwork is that MSE's economic resilience seems to be facilitated by being well connected politically in a way that enables the company to access new land and loans to invest in developing 'Dakawa Estate'.⁶⁴ Magongo and Mmari both report local perceptions of 'political patronage' as confounding the relationship between OGs and MSE.⁶⁵ It is unclear whether the estate and its OG scheme are economically viable and potentially profitable, or are simply being protected against their creditors and potential competitors through patronage. Detailed financial information about the company and its owners was not forthcoming. MSE's main shareholders, Super Group, appear to be doing well, and have acquired international loans to expand their operations at Kagera Sugar Estate Limited (KSL).⁶⁶

At KPL, concerns were expressed informally during fieldwork by the management and staff that investors were 'falling over each other' to invest in the smallholder SRI and nascent OG scheme, with much less attention focused on the financial and operational risks facing the estate, and its long-term economic viability. Interviews and observations revealed that the estate faces a number of risks as a pioneer investor. From the company's perspective, the government's decision to lift the import tariff on rice in 2013 and the unpredictable policy signals it sends in this respect, high taxation rates (especially the District crop CESS), and the lack of a viable all-season road are critical threats to its profitability and long-term economic viability. Additional challenges concern *inter alia*, having large, fixed investments in machinery and farm infrastructure; frequent pest and disease outbreaks and difficulty controlling weeds; unreliable rains and the heterogeneity of soils and water tables throughout the farm, which render mechanized operations difficult during periods of high rainfall; the parallel local market on which KPL competes with smallholders own production; the informal nature of the domestic rice trade; the need to coordinate rice milling to meet changing market demands (qualitative and quantitative) throughout the year; a lack of uniform seed and seed production strategy at the estate; the fact that smallholders can achieve higher yields and better quality rice than large estates⁶⁷; uncertainty over the viability of the SRI scheme in the light of parallel market, the chosen rice variety, and low rice prices; and dependence of the estate's profitability

on producing two crops of rice per year. The latter will require irrigating during the dry season from the Mngeta River, whose flows vary considerably throughout the year. An irrigation specialist who was interviewed pointed out that the Mngeta River flows are decreasing in response to climate change and that historical flow records cannot be used as a basis for planning for future irrigation investments. Rice crop performance under the centre pivot irrigation trials in 2010 and 2011 was moreover assessed by the management to be disappointing, and suggests that more than irrigation may be needed to enable the estate to achieve the high yields upon which its profitability depends. At the time of writing, the company has yet to make a profit margin on purchasing and selling smallholder rice.⁶⁸

In summary, KPL's strong social and environmental profile on paper seem to give it political legitimacy among donors, but the evidence so far does not support the view that the estate can be a profitable rice producer/processor that is capable of a sustainable commercial engagement with smallholders. Although the downfall of KPL estate would probably not hurt the region's smallholders from a marketing perspective, since smallholders already produce rice for the local market, and may be welcomed by some, if it led to land redistribution, it would arguably remove a crucial link to much needed and welcomed training, inputs, community development funds and employment opportunities that are facilitated by the existence of KPL as a pioneer investor in this peripheral region.⁶⁹ Lacking actionable political protection, KPL remains economically and politically *vulnerable* to the risks that it faces. Conversely, at MSE, OG farmers' dependence on sugarcane for the income it provides relative to its labour requirement, and its role in mitigating risks associated with food crop production, combine with the lack of an alternative buyer for farmers' cane and MSE's reported reliance on political patronage to expand its nucleus estate and reduce its reliance on smallholders to create a situation where MSE can continue to perform its operations and engage smallholder farmers in a partnership that smallholder OGs perceive to be exploitative and unpredictable. Despite its reported poor social and economic performance, and the social and environmental concerns associated with the plans to develop 'Dakawa Estate', the MSE OG scheme appears to be economically and politically *resilient* to the risks that it faces.

Economic viability and 'rules of the game'

According to the literature on responsible and inclusive agricultural investments, OG schemes should perform the role of both development actors and profitable businesses, if they are to improve smallholder livelihoods, reduce rural poverty and contribute to national goals of sustainable and inclusive economic development. However, our research shows that it is difficult in practice to forge inclusive, economically viable and sustainable partnerships between smallholders and large estates that lower both types of actors' vulnerability to risks and uncertainties. At the start of the fieldwork, KPL staff and owners expressed their dedication to pursuing an inclusive business model as a genuine economic component of their business. Such commitment is a prerequisite for inclusive business models to be sustainable.⁷⁰ However, '... economic viability is a pre-condition for agricultural investments to benefit the local population'.⁷¹ Despite having a responsible social investment profile on paper, KPL estate and its partnerships with smallholders are vulnerable to a range of risks connected to the political and marketing characteristics of rice and the unpredictable policies that govern its domestic marketing. Conversely, the MSE OG

scheme persists despite a lack of adherence of core RAI principles of transparency, inclusiveness and accountability to the smallholders with which it engages. It appears to be politically and economically resilient to the risks that it faces.

Our research suggests that the opportunities for and processes by which large estates obtain access to land and the extent to which they are able to control the market for the crops in question and make profits themselves, are key factors that affect their ability and willingness to engage in sustainable, transparent and accountable relationships with smallholders. These issues are shaped by wider institutional, governance and political economy factors associated with the sub-sectors and investments in question. KPL faces a number of operational and economic risks as a pioneer investor that are amplified by the price volatility of rice. According to Therkildsen periodic lowering of the import tariff is politically motivated by several factors, which include the need to ensure affordable food staples for urban consumers, not least in Zanzibar, which is a net importer of rice, and whose food security is important for the political stability of the Union.⁷² The need to maintain the political support of powerful trading companies and cartels/oligopolies, who have tended to be favoured by lucrative import licences for rice and sugarcane, also affect these dynamics.⁷³ The economic risks facing KPL are further amplified by the fact that there is no monopsony market (as at MSE) and that smallholder rice farmers have an economic advantage in producing high quality rice on small, family holdings. Smallholder farmers who produce rice on contract for KPL, however, benefit from the flexibility afforded by the parallel market for rice, the fact that SRI training can be transferred to other crops, that rice is both a food and a cash crop, and that farmers have a strong bargaining power vis-à-vis the estate, because alternative buyers for their rice exist.⁷⁴

Conversely, despite facing numerous operational risks and displaying signs of poor economic performance and behaviour towards smallholder OGs, MSE seems to be 'protected' from economic risks by the assurance that farmers will deliver their sugarcane, and the lack of an alternative market or competitor that would force MSE to improve its competitiveness vis-à-vis smallholders. Key informants and interviewees widely cited political patronage as the reason why MSE continues to persist as a viable commercial entity, and is able to acquire new land, in spite of its poor social and economic performance. Despite the low cane prices offered by MSE, the research also showed that OG farmers continue to grow cane for the role that it plays in reducing costs and risks in their broader production portfolios, including climatic risks associated with food crop production. This example helps to explain the persistence of a poorly performing OG scheme on the farmer side of the relationship.

RAI principles emphasize that states have a central role to play in setting and enforcing frame conditions that are conducive to responsible agricultural investment. While the official state policy in Tanzania may be to promote inclusive, fair and transparent commercial partnerships between small- and large-scale farmers, the government's own performance in these respects may fall short in practice.⁷⁵ If the government does not intervene when investments perform poorly, or fails to recognize and incentivize investment efforts that are socially and economically inclusive, then it should come as no surprise that the potential development benefits of such investments may be undermined. Conducive agricultural investment policies, including a level playing field on price and taxation policies, are needed to ensure that engaging in OG schemes is economically rewarding for both

small- and large-scale participants.⁷⁶ Institutional reforms that ensure transparency and equity in land acquisition processes, land-use planning and enforcement mechanisms, and land and water use rights are also needed.⁷⁷ These should go hand-in-hand with enforcement mechanisms that ensure that large, commercial estates conform to environmental and social legislation.⁷⁸ The state may also influence the ‘development’ function of commercial agricultural estates by setting rules and institutional, legal and regulatory frameworks that benefit smallholder farmers and communities.⁷⁹ The state moreover has a monitoring role to play in assessing whether CF and OG schemes are operating in accordance with responsible agricultural investment principles, principles of corporate social responsibility (CSR) and other ‘impact investment’ guidelines.⁸⁰ This should be done as part of efforts to assess to what degree and under what conditions commercial partnerships between small- and large-scale farmers are the ‘right’ way to go, in light of the risks and benefits to participants, the environment and society.

Tanzania’s many national agricultural development policies and strategies emphasize the need to include smallholders and rural communities in agricultural commercialization and modernization efforts. Hence, the promotion of OG schemes under SAGCOT and BRN, which are designed to link smallholders to profitable agricultural investments and value-chains. However, given the risks facing large, commercial estates, depending on the crop, and on local circumstances, there may exist alternative, less risky and more effective ways of increasing agricultural production and incomes among smallholder men and women farmers and contributing to national economic development than promoting OG schemes that require a large, nucleus estate.⁸¹ Regardless of whether the government chooses to invest in and support small- or large-scale agricultural production, or both, it is important to ensure a transparent and level playing field for agricultural investment that is ‘rules based’ rather than ‘deals based’ and to avoid advocating ‘blueprint’ agro-investment approaches that fail to consider the wider social, environmental and formal and informal institutional contexts that shape the vulnerability and resilience of particular investments to risks and uncertainties.

Conclusion

Investigating the dynamics of vulnerability and resilience in commercial partnerships between smallholder and large-scale rice and sugarcane estates in Tanzania suggests that political economy and governance factors associated with the investments, crops and sub-sectors in question create risks for large agricultural estates that may reduce their ability to engage in sustainable and rewarding partnerships with smallholders. An absence of transparent, effective, reliable and equitable institutions, policies and mechanisms for governing access to land, resolving contractual disputes, and marketing the crops in question reinforces power asymmetries and reduces trust and commitment between small- and large-scale participants, enhancing the risks, and undermining the potential development impacts of these schemes. Despite having a responsible investment profile on paper, KPL does not appear to enjoy any serious actionable political protection from the government and is exposed to economic and reputational risks and uncertainties that threaten to undermine its commercial viability. Conversely, despite facing widespread complaints from OG farmers, their associations, and surrounding community members, and signs that it faces economic difficulties, the MSE OG scheme appears to exhibit high

levels of ‘resilience’ to the risks that it faces. These findings suggest that the dynamics of vulnerability and resilience in commercial partnerships between small- and large-scale farmers are largely shaped by the ‘rules of the game’ – in particular, how much or little the state directly or indirectly ‘protects’ particular investments and investors from political and economic risks. These factors in turn shape the viability and sustainability of the investments and their potential to make positive contributions to smallholder livelihoods and rural development. In the absence of transparent, coherent and reliable institutional, governance and frame conditions that incentivize and reward responsible agricultural investment behaviour, it is unlikely that smallholder-inclusive agro-investments can achieve their commercial *and* development objectives.

Notes

1. World Bank, *Agriculture for Development*; Cotula et al., *Land Grab*; World Bank, *Rising Global Interest*.
2. Vermeulen and Cotula, *Making the Most*.
3. Kaarhus et al., *Agro-investment in Africa*; Lavers, “Land Grab.”
4. De Janvry, “Agriculture for Development”; Hazell et al., “Future of Small Farms.”
5. FAO et al., “Principles”; CFS, *Principles*. Additional guidance for responsible agricultural investment is found in the 2005 Voluntary Guidelines on the Right to Adequate Food in the Context of National Food Security (VG-Food) and in the 2012 Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT).
6. FAO, *Contract Farming*.
7. RFLC, “Contract Farming.”
8. AgDevCo and Prorustica, *Investment Blueprint*.
9. URT, *National Agricultural Policy*; URT, *Food Security Investment*.
10. The proposed SAGCOT region encompasses an area of approximately five million hectares of land in the central and southern regions of the country. According to the Prime Minister’s Office, SAGCOT aims to bring 350,000 ha of farmland into commercial production in this region over the coming 2 decades, raise annual agricultural revenues by US\$1.2 billion and lift 450,000 households out of poverty.
11. TNBC, *Kilimo Kwanza*; Coulson, “Kilimo Kwanza.”
12. URT, *Tanzanian Development Vision*.
13. AgDevCo and Prorustica, *Investment Blueprint*; Kikwete, “Tanzania’s Transformation.”
14. Hella, Sulle, and Kisusu, *Drivers of Success*; Cooksey, *What Difference*.
15. Pauw and Thurlow, “Agricultural Growth”; World Bank, “GDP Growth Rates.”
16. Maghimbi, Lokina, and Senga, *The Agrarian Question*.
17. Hella, Haug, and Kamile, “Crisis or Opportunity.”
18. URT, *Climate Change Strategy*.
19. Paavola, “Vulnerability.”
20. Mongi, Majule, and Lyimo, “Vulnerability and Adaptation”; Sanga, Moshi, and Hella, “Pangani.”
21. Turner et al., “Vulnerability Analysis”; Adger, “Vulnerability.”
22. Eriksen, Brown, and Kelly, “Dynamics of Vulnerability.”
23. Paavola, “Vulnerability”; O’Brien, Quinlan, and Ziervogel, “Vulnerability Interventions.”
24. Leichenko and O’Brien, “Environmental Change.”
25. Mortimore, “Sahel.”
26. Richards, “Coping with Hunger”; Mortimore and Adams, “Farmer Adaptation”; Crane, Roncoli, and Hoogenboom, “Agriculture as Performance.”
27. Brown and Westaway, “Agency, Capacity and Resilience.”
28. Ibid.

29. Eakin, "Weathering Risk"; Nicol et al., "Financial Risks."
30. World Bank, *Risk and Opportunity*, 12.
31. Kirsten and Sartorius, "Linking Agri-business."
32. FAO, *Contract Farming*.
33. Barrett et al., "Smallholder Participation"; Bellemare, "As You Sow"; Herrmann, "Agricultural Investments."
34. Oya, "Contract Farming."
35. The principles state, *inter alia*, that responsible agricultural investments should 'contribute to sustainable and inclusive economic development' (Principle 2), 'conserve and sustainably manage resources, increase resilience and reduce disaster risk' (Principle 6) and 'incorporate inclusive and transparent governance structures, processes and grievance mechanisms' (Principle 9).
36. Havnevik, Matondi, and Beyene, *Biofuels*; Nelson, Sulle, and Lekaita, "Land Grabbing."
37. Cooksey, "Politics, Patronage, Projects."
38. AgDevCo and Prorustica, *Investment Blueprint*; Kikwete, "Tanzania's Transformation."
39. *Ibid.*
40. RFLC, "Contract Farming."
41. Matango, "Mtibwa Outgrowers Scheme". MOA was established by 25 farmers in 1996 in anticipation of MSE's privatization.
42. Households were categorized as being 'poor', 'average' or 'wealthy', based on locally determined criteria that included ownership of land and livestock, access to off-farm income, food security status, education and quality of home.
43. This training was intended to boost rice yields and prepare farmers to sell their rice to KPL
44. To Illovo Sugar Estate (producing sugarcane) and Kilimo Cha Yesu (KCY) farm (producing rice) in Kilombero District, and Mbarali Highland Estate and Madibira Smallholder Scheme (both producing rice) in Mbarali District, Mbeya Region.
45. Chama Cha Mapinduzi (CCM, in English: Party of the Revolution) is the ruling and dominant political party of Tanzania.
46. Coleman, "Agrica."
47. Vermeulen and Cotula, *Making the Most*. The authors highlight sharing of 'ownership', 'voice', 'risk' and 'rewards' as key aspects of inclusive agro-investments.
48. URT, "Privatisation in Tanzania." MSE was divested by way of share sale in 1998, with 95% of shares in the company purchased by TSIL, and 5% of shares retained by the government. According to the report, the sales agreement was signed in December, 1999.
49. Between 1969 and 1999, MSE was controlled by the Tanzanian government, through an ownership and management partnership between the National Agricultural and Food Corporation (NAFCO), a government parastatal, and various combinations of private and donor interests.
50. MSE, "Environmental Audit Report," vi.
51. Known as the Korea Tanzania Joint Agricultural Company (KOTACO).
52. The Rufiji Basin Development Authority (RUBADA) is a corporate body established by the Act of Parliament No. 5 of 1975 with responsibility for sustainable and balanced socio-economic development activities in the basin.
53. Greco, "Local Politics."
54. Kayonko, "External Review."
55. Oakland Institute et al., "Irresponsible Investment."
56. HAKIARDHI, "NARCO Ranches." The report documents several actual and potential land-use conflicts associated with the Dakawa concession.
57. See also RFLC, "Contract Farming."
58. Mtibwa Outgrowers Association (MOA) and Turiani Cane Outgrowers and Other Crops Primary Cooperative Society (TUTUCOCPROS).
59. KPL SRI manager, personal communication, 13 August 2013. Farmers were paid 8000 Tanzanian shillings (TSH), compared to 6000 TSH for a 'debe', corresponding to ca. 13.5 kg milled rice.

60. West, "Linking Small- and Large-scale."
61. Ibid.
62. Glover, "System of Rice Intensification."
63. Sugar Board of Tanzania, 2015. See sugar production figures: <http://www.sbt.go.tz>.
64. MSE, "Environmental Audit Report," vi.
65. Magongo, "Master Thesis"; Mmari, "Institutional Innovations and Competitiveness."
66. IFC, "Kagera Sugar". KSL is privately owned by Super Star Forwarders Company Limited and Superdoll Trailer Manufacturing Company Limited, the same two companies that have a majority ownership shares in MSE.
67. KPL achieved rain-fed yields of 4 tonnes/ha in 2011/2012. SRI-trained smallholders achieved up to 8 tonnes/ha under the same conditions. Reported rice yields among smallholders producing under formal and informal irrigation systems in Mbarali District were above 5 tonnes/ha.
68. KPL, "Agrica Response."
69. Herrmann, "Agricultural Investments."
70. Vermeulen and Cotula, *Making the Most*, 7.
71. Ibid, 5.
72. Therkildsen, *Policy Making*.
73. Ibid.
74. West, "Linking Small- and Large-scale."
75. Cooksey, *What Difference*; Smalley, Sulle, and Malale, *Agricultural Commercialization*.
76. Poulton et al., "State Intervention."
77. TNRF, "Feedback and Recommendations."
78. EcoAgriculture Partners, "SAGCOT Greenprint"; ERML, "SAGCOT SRESA."
79. HLPE, *Investing in Smallholder Agriculture*.
80. O'Donohoe et al., *Impact Investments*, 5.
81. De Schutter, "Three Critiques."

Acknowledgements

We thank our colleagues at NMBU, the Sokoine University of Agriculture and CICERO for valuable feedback at various stages of the writing, and all those who took the time to participate in the research.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

The research was supported by the Climate Change Impacts, Adaptation and Mitigation (CCIAM) research programme (2010–2015) in Tanzania, with funding from the Royal Norwegian Embassy in Dar es Salaam.

References

- Adger, Neil W. "Vulnerability." *Global Environmental Change* 16, no. 3 (2006): 268–281.
- AgDevCo and Prorustica. "Southern Agricultural Growth Corridor of Tanzania Investment Blueprint." 2011. <http://www.sagcot.com/resources/downloads-resources/>.
- Agrica. "Response to Oakland Institute Report." *News Release*, May 26, 2015. <https://www.oaklandinstitute.org/getting-facts-right-agrica>.

- Assess Consulting. *Environmental Audit Report on Mtibwa Sugar Factory*. Dar es Salaam, Tanzania, 2011.
- Barrett, Christopher B., Maren E. Bachke, Marc F. Bellemare, Hope C. Michelson, Sudha Narayanan, and Thomas F. Walker. "Smallholder Participation in Contract Farming: Comparative Evidence from Five Countries." *World Development* 40, no. 4 (2012): 715–730.
- Bellemare, Marc F. "As You Sow, So Shall You Reap: The Welfare Impacts of Contract Farming." *World Development* 40, no. 7 (2012): 1418–1434.
- Brown, Katrina, and Elizabeth Westaway. "Agency, Capacity, and Resilience to Environmental Change: Lessons from Human Development, Well-Being, and Disasters." *Annual Review of Environment and Resources* 36, no. 1 (2011): 321–342.
- Coleman, Carter. "Agrica: Setting the Standard for Rice Farming in East Africa." Powerpoint presentation held during former President Kikwete's visit, KPL Headquarters, Mngeta, Kilombero District, Tanzania, October 8, 2011.
- Committee on World Food Security. *Principles for Responsible Investment in Agriculture and Food Systems*. Rome: FAO, 2014. <http://www.fao.org/cfs/cfs-home/resaginv/en/>.
- Cooksey, B. "Politics, Patronage and Projects: The Political Economy of Agricultural Policy in Tanzania." Future Agricultures Consortium, 2012. http://r4d.dfid.gov.uk/PDF/Outputs/Futureagriculture/FAC_Working_Paper_040.pdf.
- Cooksey, Brian. "What Difference has CAADP made to Tanzanian Agriculture?" Future Agricultures Consortium, 2013. <http://www.future-agricultures.org/publications/research-and-analysis/working-papers/1815-what-difference-has-caadp-made-to-tanzanian-agriculture/file>.
- Cotula, L., S. Vermeulen, R. Leonard, and J. Keeley. *Land Grab or Development Opportunity? Agricultural Investments and International Land Deals in Africa*. London: IIED, 2009.
- Coulson, Andrew. "Kilimo Kwanza: A New Start for Agriculture in Tanzania?" Paper presented at the REPOA seminar, Dar es Salaam, Tanzania, February 7, 2012.
- Coulson, Andrew. *Tanzania: A Political Economy*. 2nd ed. Oxford: Oxford University Press, 2013.
- Coulson, Andrew, and Bitrina Diyamett. *Improving the Contribution of Agricultural Research to Economic Growth: Policy Implications of a Scoping Study in Tanzania*. London: International Growth Centre, 2012. <http://www.theigc.org/publications/working-paper/improving-contribution-agricultural-research-economic-growth-policy>.
- Crane, T. A., C. Roncoli, and G. Hoogenboom. "Adaptation to Climate Change and Climate Variability: The Importance of Understanding Agriculture as Performance." *NJAS – Wageningen Journal of Life Sciences* 57, no. 3–4 (2011): 179–185.
- De Janvry, Alain. "Agriculture for Development: New Paradigms and Options for Success." *Agricultural Economics* 41 (2010): 17–36.
- De Schutter, Olivier. "How Not to Think of Land-Grabbing: Three Critiques of Large-Scale Investments in Farmland." *The Journal of Peasant Studies* 38, no. 2 (2011): 249–279.
- Eakin, Hallie. *Weathering Risk in Rural Mexico: Climatic, Economic and Institutional Change*. Tucson: University of Arizona Press, 2006.
- EcoAgriculture Partners. "The SAGCOT Greenprint: A Green Growth Investment Framework for the Southern Agricultural Growth Corridor." 2012. <http://www.sagcot.com/resources/downloads-resources/>.
- Environmental Resources Management Limited. *Southern Agricultural Growth Corridor of Tanzania (SAGCOT) Strategic Regional Environmental and Social Assessment (SRESA): Interim Report to the Government of Tanzania*. London: ERML, 2012.
- Eriksen, Siri H., Katrina Brown, and Mick P. Kelly. "The Dynamics of Vulnerability: Locating Coping Strategies in Kenya and Tanzania." *Geographical Journal* 171, no. 4 (2005): 287–305.
- FAO. "Contract Farming for Inclusive Market Access." 2013.
- FAO, IFAD, UNCTAD, and World Bank. "Principles for Responsible Agricultural Investment that Respects Rights, Livelihoods and Resources." 2010. <http://unctad.org/en/Pages/DIAE/G-20/PRAI.aspx>.
- Glover, Dominic. "Science, Practice and the System of Rice Intensification in Indian Agriculture." *Food Policy* 36, no. 6 (2011): 749–755.

- Greco, E. *Local Politics of Land and the Restructuring of Rice Farming Areas: A Comparative Study of Tanzania and Uganda*. Manchester: Leverhulme Centre for the Study of Value, School of Environment, Education and Development, The University of Manchester, 2015.
- HAKIARDHI. "The State of the then NAFCO, NARCO and Absentee Landlords' Farms/Ranches in Tanzania." 105: Land Rights Research and Resources Institute (LARRRI/HAKIARDHI), February 14, 2009.
- Haug, Ruth, and Joseph Hella. "The Art of Balancing Food Security: Securing Availability and Affordability of Food in Tanzania." *Food Security* 5, no. 3 (2013): 415–426.
- Havnevik, Kjell, Prosper B. Matondi, and Atakilte Beyene, eds. *Biofuels, Land Grabbing and Food Security in Africa*. London: Zed Books/Nordiska Afrikainstitutet, 2011.
- Hazell, Peter, Colin Poulton, Steve Wiggins, and Andrew Dorward. "The Future of Small Farms: Trajectories and Policy Priorities." *World Development* 38, no. 10 (2010): 1349–1361.
- Hella, J. P., E. Sulle, and R. W. Kisusu. "Drivers of Success for CAADP Implementation: Tanzania Case Study." 2013. <http://www.firetail.co.uk/reports/TanzaniaDOS.pdf>.
- Hella, Joseph P., Ruth Haug, and Illuminatus M. Kamile. "High Global Food Prices – Crisis or Opportunity for Smallholder Farmers in Tanzania?" *Development in Practice* 21, no. 4–5 (2011): 652–665.
- Herrmann, Raoul T. "Large-Scale Agricultural Investments and Smallholder Welfare: A Comparison of Wage Labor and Outgrower Channels in Tanzania." *World Development* 90 (2017): 294–310.
- HLPE. "Investing in Smallholder Agriculture for Food Security." A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.
- Kaarhus, R., Ruth Haug, Joseph Hella, and Jeremia R. Makindaro. *Agro-investment in Africa – Impact on Land and Livelihoods in Mozambique and Tanzania*. Ås: Noragric, UMB.
- Kayonko, Juma. "External Review and Audit Implementation of Environmental and Social Management Plan and Resettlement Action Plan for Mngeta Farm, Kilombero Valley, Kilombero District, Morogoro Region, Tanzania." 29. Dar es Salaam, Tanzania: Green Tanzania Environmental Consultants Limited, June.
- Kikwete, J.M. "Tanzania's Transformation and Vision 2025: Governing Economic Growth for Social Gain." 2014. http://www.chathamhouse.org/sites/files/chathamhouse/home/chatham/public_html/sites/default/files/20140331TanzaniaKikwete.pdf.
- Kirsten, Johann, and Kurt Sartorius. "Linking Agribusiness and Small-Scale Farmers in Developing Countries: Is there a New Role for Contract Farming?" *Development Southern Africa* 19, no. 4 (2002): 503–529.
- Lavers, Tom. "'Land Grab' as Development Strategy? The Political Economy of Agricultural Investment in Ethiopia." *The Journal of Peasant Studies* 39, no. 1 (2012): 105–132.
- Leichenko, Robin M., and Karen L. O'Brien. *Environmental Change and Globalization: Double Exposures*. Oxford: Oxford University Press, 2008.
- Maghimbi, S., R. B. Lokina, and M. A. Senga. "The Agrarian Question in Tanzania? A State of the Art Paper." *Current African Issues* 45. Uppsala: Nordiska Afrikainstitutet.
- Magongo, Joanita Kokuangisa. "Master Thesis." Institute for Social Studies, The Hague, 2008.
- Matango, Reuben. "Mtibwa Outgrowers Scheme: A Model for Smallholder Cane Production in Tanzania." UNCTAD expert meeting: Enabling Small Commodity Producers in Developing Countries to Reach Global Markets, 33, Palais des Nations, Geneva, December 11–13.
- Mmari, Donald. "Institutional Innovations and Competitiveness of Smallholders in Tanzania." PhD thesis, Erasmus University Rotterdam, 2012.
- Mongi, H., Majule, A. E., and Lyimo, J. G. "Vulnerability and Adaptation of Rain Fed Agriculture to Climate Change and Variability in Semi-Arid Tanzania." *African Journal of Environmental Science and Technology* 4, no. 6 (2010): 371–381.
- Mortimore, Michael. "Adapting to Drought in the Sahel: Lessons for Climate Change." *Wiley Interdisciplinary Reviews: Climate Change* 1, no. 1 (2010): 134–143.
- Mtibwa Sugar Estates Limited. "Company Brief." January 19.
- Nelson, Fred, Emmanuel Sulle, and Edward Lekaita. "Land Grabbing and Political Transformation in Tanzania." International conference on Global Land Grabbing II, Ithaca, NY, October 17–19.

- Nicol, Mac R., G. F. Ortmann, and S. RD Ferrer. "Perceptions of Key Business and Financial Risks by Large-Scale Sugarcane Farmers in KwaZulu-Natal in a Dynamic Socio-Political Environment." *Agrekon* 46, no. 3 (2007): 351–370.
- O'Brien, K., T. Quinlan, and G. Ziervogel. "Vulnerability Interventions in the Context of Multiple Stressors: Lessons from the Southern Africa Vulnerability Initiative (SAVI)." *Environmental Science & Policy* 12, no. 1 (2009): 23–32.
- O'Donohoe, N., C. Leijonhufvud, and Y. Saltuk. "Impact Investments: An Emerging Asset Class." 2010. <http://www.ita.doc.gov/td/finance/publications/JPMorgan%20II%20Report.pdf>
- Oya, Carlos. "Contract Farming in Sub-Saharan Africa: A Survey of Approaches, Debates and Issues." *Journal of Agrarian Change* 12, no. 1 (2012): 1–33.
- Paavola, Jouni. "Livelihoods, Vulnerability and Adaptation to Climate Change in Morogoro, Tanzania." *Environmental Science & Policy* 11, no. 7 (2008): 642–654.
- Pauw, Karl, and James Thurlow. "Agricultural Growth, Poverty, and Nutrition in Tanzania." *Food Policy* 36, no. 6 (2011): 795–804.
- Poulton, Colin, Jonathan Kydd, Steve Wiggins, and Andrew Dorward. "State Intervention for Food Price Stabilisation in Africa: Can it Work?" *Food Policy* 31, no. 4 (2006): 342–356.
- Rehber, Erkan. *Contract Farming: Theory and Practice*. Hyderabad: Icfai University Press, 2007.
- Richards, P. *Coping with Hunger. Hazard and Experiment in an African Rice-Farming System*. Winchester, MA: Allen and Unwin, 1986.
- Rural Finance Learning Center. "Contract Farming." n.d. http://www.ruralfinance.org/library/business-support-services/contract-farming/en/?no_cache=1&field=doc_type&dir=down.
- Sanga, G. J., A. B. Moshi, and J. P. Hella. "Small Scale Farmers' Adaptation to Climate Change Effects in Pangani River Basin and Pemba: Challenges and Opportunities." *International Journal of Modern Social Sciences* 2, no. 3 (2013): 169–194.
- Smalley, R., E. Sulle, and L. Malale. "The Role of the State and Foreign Capital in Agricultural Commercialization: The Case of Sugarcane Outgrowers in Kilombero District, Tanzania." Working Paper 106. Future Agricultures Consortium, 2014.
- Tanzania Natural Resources Forum. "Feedback and Recommendations for the 'Greenprint' Strategy of the Southern Agricultural Growth Corridor of Tanzania Initiative." 2012. <http://www.tnrf.org/Greenprint.pdf>.
- The Oakland Institute, Greenpeace Africa, and Global Justice Now. *Irresponsible Investment: AGRICA's Broken Development Model in Tanzania*. Oakland, CA: Oakland Institute.
- Therkildsen, O. *Policy Making and Implementation in Agriculture: Tanzania's Push for Irrigated Rice*. Copenhagen: Danish Institute for International Studies.
- TNBC. *Kilimo Kwanza-Towards Tanzanian Green Revolution*. Dar es Salaam: Tanzania National Business Council.
- Turner, B. L., Pamela A. Matson, James J. McCarthy, Robert W. Corell, Lindsey Christensen, Noelle Eckley, Grete K. Hovelsrud-Broda, et al. "Illustrating the Coupled Human-Environment System for Vulnerability Analysis: Three Case Studies." *Proceedings of the National Academy of Sciences* 100, no. 14 (Jul. 8, 2003): 8080–8085.
- URT. "National Climate Change Strategy." 92: Division of Environment, Vice President's Office.
- URT. "Tanzania Agriculture and Food Security Investment Plan (TAFSIP), 2011–12 to 2020–21."
- URT. "Tanzania Development Vision 2025. Big Results Now: National Key Result Area (NKRA)." Agriculture Lab. Powerpoint presentation.
- URT/MAFC/NAP. *National Agriculture Policy*. Dar es Salaam: United Republic of Tanzania (URT) Ministry of Agriculture Food Security and Cooperatives (MAFC).
- Vermeulen, S., and L. Cotula. *Making the Most of Agricultural Investment: A Survey of Business Models that Provide Opportunities for Smallholders*. London/Rome/Bern: IIED/FAO/IFAD/SDC, 2010.
- West, Jennifer. "Can Linking Small- and Large-Scale Farmers Enhance Adaptive Capacity? Evidence From Tanzania's Southern Agricultural Growth Corridor." In *Climate Change Adaptation and Development: Transforming Paradigms and Practices*, edited by Tor Håkon Inderberg, Siri Eriksen, Linda Sygna, and Karen O'Brien. New York: Routledge, 2015.

- West, Jennifer, and Ruth Haug. "Polarized Narratives and Complex Realities in Tanzania's Southern Agricultural Growth Corridor". *Development in Practice* 27, no. 4 (2017): 418–431. doi:10.1080/09614524.2017.
- World Bank. "GDP Growth Rates for Tanzania in 2013, 2014 and 2015." Accessed March 3, 2016. <http://www.worldbank.org/en/publication/global-economic-prospects/Regional-Outlooks/GEP-Jan-2016-Sub-Saharan-Africa-analysis#2>.
- World Bank. *Rising Global Interest in Farmland: Can it Yield Sustainable and Equitable Benefits?* Washington, DC: World Bank, 2010.
- World Bank. *World Development Report 2008: Agriculture for Development*. Washington, DC: World Bank and Oxford University Press, 2007.
- World Bank. *World Development Report 2014: Risk and Opportunity—Managing Risk for Development*. Washington, DC: World Bank, 2013.