

The future of smallholders in Latin America: land, food, livelihoods, and the growth of monoculture

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Greater investment in agriculture is needed to reduce rural poverty and improve food security; but how investment is made, its context and conditions, is at least as important as how much is invested. This paper presents three case studies of large-scale agricultural investment in Paraguay, Guatemala, and Colombia and shows how monoculture expansion is displacing communities, undermining smallholder livelihoods, and worsening local food security. In some cases displacement is a direct result, when companies acquire land from smallholders. In others it is indirect, when smallholders next to plantations are unable to coexist with the health and environmental problems caused by the intensive use of agrochemicals. Cases also showed how large-scale monoculture expansion is competing for land with small-scale basic food production; thus, households which used to be self-sufficient in food now rely on local markets. Even when companies claim to operate responsibly, their business model determines who bears the risks, who has access to capital, and where market power lies. Responsibility should mean benefits and costs are fairly distributed and all rights upheld, including land rights. Private agricultural investment is needed, but it should complement rather than undermine smallholders, who are the main investors in agriculture.

Keywords: monoculture, smallholder agriculture, food security, agricultural investment, value chains

ENABLING EVERY PERSON TO HAVE enough nutritious food to eat now and in the future is a major global concern. Yet food insecurity is not simply a problem of food supply. Measures to increase agricultural productivity must be complemented by policies to ensure that adequate, nutritious food is accessible to all. This requires increasing incomes, fighting poverty – particularly in rural areas – and establishing effective safety-net programmes.

In the wake of the 2007–08 food price crisis, the need to increase investment in agriculture has risen to the top of the global agenda. But a key question confronting governments, farmers, development organizations, and the private sector is what

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<http://dx.doi.org/10.3362/2046-1887.2014.014> ISSN: 2046-1879 (print) 2046-1887 (online)

mix of investment will best achieve the desired outcomes of increased production and equitable access to food: public or private, small-scale or large-scale, low-input and agro-ecological models or input-intensive and industrial farming?

Public investment in agriculture and rural development is essential to supply key public goods and to attract and guide effective private investment. Evidence shows significant returns on such public investment in terms of poverty reduction and agricultural growth when it includes smallholder needs (FAO, 2012; Fan and Rao, 2008). But much more investment is needed, particularly to address the challenges facing small-scale producers. Most agricultural investment in developing countries is still made by farmers themselves, exceeding the amount invested by governments and domestic corporations by a ratio of more than three to one, according to FAO estimates. Small-scale producers provide over 80 per cent of the food consumed in a large part of the developing world (IFAD and UNEP, 2013). In Latin America and the Caribbean, some 15 million small-scale farms play an essential role in the economies and food security of the region, as well as in the future of the 62 million people who still live in poverty in its rural areas (Berdegué and Fuentealba, 2011). Paradoxically, it is these very same small-scale producers who are the most food-insecure.

A recent wave of large-scale corporate investments involving land acquisitions, particularly in some of the world's poorest countries and regions, has raised real concerns that small-scale producers – farmers, pastoralists, and foragers – may become marginalized and displaced in the process. Case studies from around the world have shown how the negative impacts of large-scale land acquisitions in developing countries, which can involve forced evictions of local communities, most often outweigh the few benefits – essentially, job creation (see Cotula et al., 2009; Deininger et al., 2011; Anseeuw et al., 2012; International Land Coalition and FAO, 2013). But it is not only investments fitting the definition of land grabbing given by the Tirana Declaration (International Land Coalition, 2011a) that undermine smallholder livelihoods, local food security, and the environment.

When adequate policy and regulatory frameworks are absent and public or private-sector actors fail to recognize their responsibility for fostering sustainable development and the right to food for all, large-scale investment can increase inequalities and lead to land grabbing, worker rights violations, degraded natural resources, higher greenhouse gas emissions, and more poverty and hunger.

Globally accepted guidelines for what constitutes responsible investment in agriculture do not yet exist. But important efforts are under way to agree such norms. In 2012, the Committee on World Food Security (CFS) launched a global consultation involving governments, international organizations, civil society, and private sector stakeholders from around the world. The expected outcome of this process, to be concluded before the end of 2014, is a 'set of principles to promote investments in agriculture that contribute to food security and nutrition and to support the progressive realization of the right to adequate food in the context of national food security' (CFS, 2013).

In the context of its GROW campaign, urging governments and companies to promote a more sustainable and fair food system, Oxfam has undertaken research around the world to assess the impacts of large-scale, land-based investments in

developing countries (see Zagma, 2011; Geary, 2012; and Tandon and Wegerif, 2013). These studies have sought to understand the conditions under which such acquisitions occur and how they affect people at the local level – particularly small-scale farmers – and their access to land, livelihoods, and food security, as well as the environmental, health, and labour conditions on the plantations involved. This paper shares the findings and insights drawn from three case studies in Latin America commissioned by Oxfam America in late 2012 and 2013. They focus on land acquisitions by US-based corporations or companies backed by US capital to produce some of the key commodity crops expanding most rapidly worldwide: soybeans in Paraguay, oil palm in Guatemala, and corn and soy in Colombia.

Three case studies from Latin America

The primary research – interviews and evidence from the field – was complemented by secondary information from literature reviews. Qualitative methods were chosen for the field work, including in-depth, semi-structured interviews and focus groups with the key actors: company representatives, small-scale farmers, community leaders, plantation workers and former workers, national and local authorities, civil society organizations, national experts, and international organizations. The rest of this section provides a brief overview of land issues in Latin America and describes the context and characteristics of the three land-based investments studied. Full descriptions of the cases can be found in the separate research reports (Guereña, 2013; Guereña and Zepeda, 2013; and Oxfam, 2013).

Land, inequality, and agricultural expansion in Latin America

One of the biggest challenges to a sustainable and fair agricultural and food system in Latin America and the Caribbean is the extreme concentration of land ownership. Land is also the source of innumerable conflicts. The struggle over land rights has been at the root of civil wars in Colombia and Guatemala and the ‘constitutional coup’ in Paraguay. These three countries have some of the most extreme concentrations of land ownership in the world.

Government policies have failed to overcome this problem. Agrarian reforms launched in many Latin American countries over the last two centuries resulted in some democratization of ownership but were systematically opposed by economic oligarchies, lacked continuity or failed to empower smallholders. Then, as the role of the state was reduced over the last two decades, governments reoriented agrarian policies to stimulate land markets, often reversing redistributive processes (International Land Coalition, 2011b).

Agriculture sector policies in the region have focused on improving access to global markets. Consequently, public investment has prioritized support for products with high global demand, such as tropical fruits, meat, sugar, and, more recently, grains and oilseed crops (mostly soybean) for biofuels (Alcaraz, 2013). Production of these commodities is dominated by large agribusinesses that benefit from incentives, tax exemptions, access to credit, market protection, targeted

infrastructure improvements, and, too often, weak and extremely lax enforcement of environmental and labour regulations. At the same time, the vast majority of small-scale producers depend on domestic markets that have been neglected by public investment and development agencies (Berdegúe and Fuentealba, 2011). Their rights and needs have not been prioritized by policy and regulatory frameworks that could strengthen their market power and increase their access to land and natural resources (Vorley et al., 2012). The result has been a two-tiered model of agriculture that increases exclusion by favouring the concentration of land, wealth, and power in a few hands.

This imbalance is at risk of deepening even more. A new appetite for agricultural commodities, partly sparked by biofuel subsidies and mandates in the United States and Europe as well as in some Latin American countries, has spurred a wave of new investments in soy, oil palm, sugarcane, and other 'flex-crops' – crops having multiple uses within the food and energy sectors, depending on the fluctuation of international prices. These crops are all part of extensive global supply chains dominated by a few companies, fed by input-intensive monoculture that relies on economies of scale in processing, transport, and marketing. The accelerated expansion of large-scale monoculture in Latin America is transforming the region's land use and agrarian structures towards greater concentration of landholdings.

Paraguay case

Paraguay is the sixth largest producer and fourth largest exporter of soybeans in the world. Soy is the basis of the Paraguayan economy, which grew by 14 per cent in 2010, the highest rate in Latin America and third in the world (World Bank database, see website). Even so, the rural–urban gap is deep: one in every two Paraguayans living in rural areas is poor, and one in every three is extremely poor – a proportion three times higher than in urban areas (General Directorate of Statistics, Surveys and Census of Paraguay, 2011). Rural poverty in Paraguay is closely linked to the concentration of land ownership, the highest in Latin America: a privileged 1.6 per cent of land owners own 80 per cent of the land available for agriculture and livestock (Ministry of Agriculture and Livestock of Paraguay, 2008).

Biased public policies have fuelled the rapid expansion of soy monoculture over the last two decades. Between 1995 and 2000 more than 70 per cent of public spending in agriculture went to subsidies that mostly benefited large-scale agro-export production (De Ferranti et al., 2005), and the fiscal system also gives preferential treatment to corporate industrial agriculture; Paraguay is the only country in Latin America where soy exports are not taxed. The European Commission (2013: 9) warned that 'the extension of the soybean production limit has led to serious social and environmental conflicts in a country where rules are rarely complied with and where specific development policies are scarce'. Today soy covers 3 million hectares or 80 per cent of agricultural cropland in Paraguay (based on estimates from the Paraguayan Association of Soy, Grain and Oilseeds Producers and Ministry of Agriculture and Livestock of Paraguay, 2008). Approximately half of this land had been previously occupied by cattle ranches (today displaced to the north of

the country) while the other half was owned by small-scale farmers and indigenous families, many of whom ended up swelling the ranks of the urban poor (BASE Investigaciones Sociales, 2007).

Soy in Paraguay is almost exclusively produced on large-scale, input-intensive, and mechanized plantations (in 2008 almost 90 per cent of soy was planted on farms larger than 100 hectares; National Census of Agriculture and Livestock, 2008). More than half are owned by Brazilian companies, while 80 per cent of soy exports are controlled by only six transnational corporations (Luis Rojas, personal communication, 11 February 2013). Ninety-five per cent of soy seeds are genetically modified to tolerate the herbicide glyphosate or Roundup, the widespread heavy use of which has raised much concern as well as resistance on the part of small-holders, indigenous people, and environmental groups (Palau et al., 2012). The United Nations Committee on Economic, Social and Cultural Rights (2007) has warned that 'the expansion of soy production [in Paraguay] has brought with it the indiscriminate use of agrochemicals, provoking death and illness in children and adults, water contamination and the disappearance of ecosystems while affecting the traditional food resources of the communities'.

In this context, the company Desarrollo Agrícola del Paraguay (DAP) – a local subsidiary of Bermuda-based NF Developers – acquired or leased 35,000 hectares of former cattle ranches and converted them into intensive, mechanized plantations of soy in rotation with corn and sunflower. DAP raised capital from national and international investors, including the Rohatyn Group and JP Morgan. The World Bank's International Finance Corporation (IFC) also provided US\$28 m in credit and venture capital in 2009 and 2011.

DAP has sought to differentiate itself from other soy companies and to avoid resistance from the local population by adopting more responsible practices. In association with national non-governmental organizations, it has developed community projects and provided support to some smallholder producers. These efforts have gained recognition for DAP's 'unique business model which focuses on building long-term alliances with interested local participants to assure a triple bottom line: social, environmental and economic' (De Lapérouse, 2012). The IFC has referred to it as an example of how best practice in sustainable agribusiness development is being implemented effectively (E. Restrepo, IFC officer for Paraguay, personal communication, 22 February 2013). Oxfam's research aimed to assess these statements *in situ*. Field work examined how DAP investments have been carried out in practice; how they are perceived by local stakeholders; who has benefited; whether there is evidence of adverse direct or indirect impacts; and what outcomes resulted from the community projects.

Guatemala case

Eighty per cent of agricultural land in Guatemala is owned by only 8 per cent of agricultural producers; while half a million rural families have no land at all (Government of Guatemala, 2011). This extreme inequality was at the root of the civil war that devastated the country for 36 years. And although the Peace

Agreement signed in 1996 included provisions to address the problem, the situation has not improved.

The rapid expansion of industrial monoculture – particularly sugarcane and oil palm – is displacing basic food production (United Nations Human Rights Council, 2010). The country's Strategic Plan for Food and Nutrition Security (2012–2016) points out how the rapid increase of non-food crops undermines domestic production of basic grains, raising food security concerns (Government of Guatemala, 2011: 24).

Oil palm cultivation in Guatemala began as an alternative cash crop to cotton in the 1980s. The oil palm industry in Guatemala is highly concentrated: six corporate groups dominate the entire value chain from farm to consumer, controlling input supply, production, processing, marketing, and prices (Laura Hurtado and Luis Solano, personal communication, 2012). Most of the palm oil produced in Guatemala is exported – 66 per cent to Mexico – for use in the food industry and, more recently, biofuel production. Domestic biodiesel production, unlike sugarcane-based ethanol, is at a very early stage of development.

The case study focused on the company Palmas del Ixcán, established in Guatemala as a subsidiary of Green Earth Fuels (one of the main biofuel producing companies in the United States). Palmas del Ixcán also acquired capital from investment funds, including the Carlyle Group, Riverstone Holdings, and Goldman Sachs. But following the withdrawal of Green Earth Fuels from the undertaking in 2011, only national shareholders remain invested. Palmas del Ixcán planned to be the first biodiesel exporter in Guatemala. But financial constraints limited the company's planned investment to direct acquisition of 4,600 hectares (one-quarter of what had been initially projected) and contracts with independent producers on more than 2,100 hectares. Oxfam's research in the field examined how the company's operations have affected the livelihoods of small-scale farmers and their access to land. It looked at two ways in which the company acquired control over land: direct purchase and contract farming involving smallholders in oil palm production in the municipalities of Ixcán, Sayaxché, and Chisec. The research also looked into labour conflicts involving Palmas del Ixcán and other oil palm companies in the municipality of Sayaxché.

Colombia case

About 80 per cent of productive land in Colombia is in the hands of 14 per cent of owners (figure for 2010; Ibanez and Muñoz, 2011). As in Guatemala, this inequality has been both a root cause and a consequence of the internal armed conflict. The violence and forced displacement of almost 5 million people have left an estimated 8 million hectares of land dispossessed, more than the surface area currently devoted to agriculture across the country (Monitoring Committee of Public Policy on Forced Displacement, cited in FAO, 2011). Productive land is under-utilized, much of it occupied by extensive cattle ranches. There are no general restrictions on property size, except in the case of land that has belonged to the state. Such public assets (*baldíos*) should be distributed by the state to fulfil its constitutional mandate to promote access to land by landless farmers in order to improve the income and

quality of life of the rural population. To prevent accumulation of *baldíos*, no individual or entity is permitted to acquire more than one 'family agriculture unit' (Government of Colombia, 1994) – the amount of land considered necessary for a family to obtain a decent livelihood, varying in different parts of the country according to differing agro-ecological conditions, with a maximum of 1,725 hectares in some municipalities.

The current Santos government has referred to the family agriculture unit as 'a bureaucratic limitation which slows agricultural progress', and has made several attempts to modify its application, which have been opposed by many stakeholders and, in some cases, rejected by the Constitutional Court. This case study focused on how Cargill, the world's largest agricultural commodity trader, acquired land in the Altillanura region to produce corn and soybeans. Information was obtained from government registry offices, the chamber of commerce, and indirect informants, as significant logistical limitations and security risks prevented direct access to the field or previous owners. The research sought to reveal whether Cargill's land acquisition involved *baldíos*, in the context of an ongoing national debate in Colombia over land distribution and peace talks in which the government has committed to move forward a comprehensive rural reform that includes improving access to land for the rural poor.

The impacts of investment on smallholders

The cases from Paraguay, Guatemala, and Colombia help to illustrate concerns about the impacts of large-scale agricultural investments on small-scale producers and local communities; in particular their effect on food security, access to land, environmental sustainability, and poverty reduction. This section discusses seven specific areas of concern. The insights from these cases cannot be generalized for all such land-based investments. Yet one lesson is broadly applicable: the particular production model and the specific local context are what primarily determine whether impacts are positive or negative for local populations. The three cases share two basic features. All three countries have invested in large-scale monoculture to produce important globally traded commodity crops: palm oil, soy, and corn. And the three agribusinesses involved – DAP, Palmas del Ixcán, and Cargill – have publicly stated their commitment to corporate social responsibility and their interest in contributing to economic growth and community development in the areas where they operate. Although these cases are not representative of agribusiness corporations generally, insights from the studies point to issues that must be taken into account in an evidence-based debate on what constitutes responsible investment in agriculture.

Monoculture expansion is displacing smallholders

The increasing global demand for agricultural and energy commodities has focused attention on the economic potential of transforming formerly neglected regions into agricultural development hubs, connected by international trade corridors.

Some Latin American countries are paving the way for large corporate investors, expecting them to lead a productive and technological transformation.

Evidence from the three cases suggests that large-scale monoculture is advancing quickly in regions formerly occupied by indigenous and smallholder communities, leaving them without access to land – a fundamental asset for production. The land considered to be under-utilized often holds great value for the livelihoods of small-scale farmers, pastoralists, women, and indigenous people.

In Guatemala, the Franja Transversal del Norte (Northern Corridor) received little attention until the government invested in a highway from the Mexican border to the Caribbean, which prompted several agricultural, extractive, and energy projects. This region, with a history of intense conflicts over land, was mostly populated by landless farmers who had benefited from a market-based land reform after the government provided them with credit to purchase small plots. Lack of public investment in rural development, services, and productive infrastructure, as well as barriers to market access, prevented smallholder farming from becoming profitable. Unable to repay their debt to the state, 40 per cent of smallholders who had obtained titles through the land legalization process under the 1996 Peace Agreement sold their plots to investors for extensive cattle ranches, oil palm, and teak plantations (Günberg et al., 2012). In fact, land of particular interest to oil palm growers, including Palmas del Ixcán, seemed to be fast-tracked for legalization. It was reported that Palmas del Ixcán used its influence to speed the titling process in areas of the Northern Corridor where the company would later acquire land (Hernández and Castañeda, 2011; also confirmed by interviews in the field with local organizations and smallholders). Instances of indirect coercion to sell were reported during the field work; entire communities had been surrounded by palm plantations and access to their plots blocked by fences and security guards.

Similar circumstances were found in the eastern region of Paraguay. The department of San Pedro is experiencing the rapid advance of large-scale soy plantations, encouraged by national policies that promote transforming cattle ranches to oilseed production and that establish incentives and domestic targets for biodiesel. Public investment in roads is also improving connectivity with Brazil. All this has stimulated new soy plantations in an area which was once occupied by small-scale farms, indigenous communities, and cattle ranches. As a result, local communities are being displaced, with cases of forced eviction of indigenous families, who are the most vulnerable (see the case of the community Nembíara in the department of Caaguazú in Office of Colombia, 2007; also the community of Campo Agua'ë, department of Canindeyú, see Palau et al., 2012).

When not directly displaced, communities suffer indirect expulsion. Most of the families interviewed during fieldwork agreed that it is virtually impossible to coexist with intensive soy plantations due to their harmful health and environmental impacts. In addition to the harm caused to family crops and small livestock, long-term exposure to pesticides and herbicides has caused respiratory illnesses, skin conditions, allergies, headaches and stomach aches, and presents a high risk for pregnant women and children (based on field interviews with households and health professionals and the medical study of the relationship between exposure

to pesticides and frequency of congenital birth defects by Benitez et al., 2009). Health professionals interviewed in the Department of San Pedro (February 2013) reported more frequent cases of leukaemia, liver, and skin cancers. The existing government regulations on the use of agrochemicals have proved insufficient to effectively protect the environment and people's health. Under these conditions, many families see their best option is to sell their land and move to escape the toxic environment.

Colombia's Altillanura has similar characteristics to those described in Guatemala and Paraguay. A remote region bordering Venezuela and Brazil, it has some of the country's highest poverty rates, weak public infrastructure, and serious human rights violations due to the presence of armed groups and illegal trafficking of drugs and arms. Lacking public investment, its economy has been based on oil extraction and extensive cattle farming. The Colombian Government has begun creating incentives to attract large-scale investors, considering them best suited for developing its productive potential and producing commodities in high demand on international markets.

More land in fewer hands

In the cases described, monoculture expansion took place to a large extent on land where ownership had already been highly concentrated. This has led to a process of re-concentration of land ownership from large farms to even larger mechanized plantations.

In Paraguay, huge cattle ranches are being transformed into even larger soy plantations. In Guatemala, Palmas del Ixcán and other oil palm investors have acquired land that originally belonged to indigenous communities and families before they were displaced during the civil war, when new settlers occupied the area for cattle ranches. More recently, indigenous communities that were unable to fully legalize their communal landholdings following the Peace Agreement have become victims of fraud and legal manoeuvres which have led to further displacement and concentration of land ownership. Agricultural investors are also buying land from smallholders unable to make ends meet due to a range of obstacles and shocks. Too often, this land had been previously distributed by the state to vulnerable families. But without adequate support or public services and infrastructure, small farmers are unable to realize their potential and often resort to selling their most precious asset just to get by.

Some countries have enacted regulations to prevent further concentration of formerly state-owned land. This is the case in Colombia, where restrictions apply to *baldíos* – land distributed to landless rural families. However, this has failed to stop Cargill and other companies from accumulating huge tracts of land by dividing their purchases to circumvent the rules. Between 2010 and 2012 Cargill created 36 shell companies which each bought property whose size did not exceed the legal limit, in order to acquire a total of at least 52,576 hectares in the Altillanura department of Vichada. Cargill evaded the restrictions and concentrated 30 times the maximum size of holding allowed by one household or entity in this department. In Colombia,

where the democratization of access to land has been agreed as part of peace talks between the government and the FARC guerrillas to resolve a five-decade-long conflict, cases such as that of Cargill have created controversy and protests by small farmers.

More commodities, but more food insecurity

Agribusinesses claim that they are expanding onto land that is unused or underutilized for grazing livestock, and thus are helping improve productivity without competing with food production or deforesting new areas. But field research in Guatemala and Paraguay told a different story.

In addition to taking over old cattle ranches, oil palm production in Guatemala has expanded to areas where family farms once produced corn and beans for local consumption (see IDEAR study quoted by the Central American Network to Monitor the DR-CAFTA, 2011). These areas are some of the most food insecure, as families are no longer able to produce their own food yet lack adequate purchasing power or easy access to markets where nutritious food is available. Field research in the communities near Palmas del Ixcán's plantations revealed that households that had sold the land where they used to grow food must now buy it, but often cannot afford to do so. Plantation jobs are seasonal and low paying, and with alcoholism a growing problem and men controlling the family income, food insecurity has increased. In addition, many families who used to rent land for their subsistence crops are finding this more difficult and expensive as oil palm companies are renting in the same areas. And even when they retain their land, families working on plantations tend to abandon subsistence crops and small livestock due to lack of time.

Another factor threatening family food production in Paraguay is the proximity to intensively fumigated soy plantations. Rural households usually cultivate the food they eat – corn, beans, and tapioca – along with cash crops such as sesame and cotton. But the families living near DAP's soy fields reported that the excessive use of herbicides and pesticides is damaging their crops and animals. They complained about the frequent loss of fruit trees, tapioca, and bean crops, as well as the high death rate among their hens. They also indicated that when the soy plantations are fumigated the pests move to their plots, damaging their fields and reducing their productivity.

Replacing livelihoods with informal jobs

Industrial plantations transfer control over land away from small-scale farmers and, in theory, replace land-based livelihoods with employment opportunities. Thus, where large-scale plantations take root, family farmers are gradually transformed into waged agricultural workers. Ancillary businesses may also develop to provide services to the large plantations, but they often require skills or capital investment that farming communities do not possess. In Paraguay, soy companies outsource mechanization services – generally from the Mennonites, the only local groups who own farm machinery.

Demand for labour on plantations is usually concentrated in the initial investment phase, for clearing the land and preparing the soil. Once the crop is established and mechanized, labour needs decline. Paraguayan communities where cattle ranches had been replaced by mechanized soy plantations agreed that raising livestock created greater demand for labour, as one worker can care for 200 hectares of soy. When additional manual labour is required, in particular for eliminating weeds, plantations recruit temporary workers through local contractors. But working conditions are dangerous, due to the exposure to agrochemicals.

Oil palm, by contrast, is more labour-intensive. It creates approximately 30 times more jobs than other industrial crops such as soy, sorghum, or rubber (World Bank, 2011). Palm producers claim their plantations create thousands of jobs. But the quality of these jobs is a matter of concern, as most are temporary, low-skilled, poorly paid, and expose workers to unsafe conditions. Testimonies gathered in Guatemala confirm that labour laws and standards are systematically violated on oil palm plantations. In 2011, workers from the municipality of Sayaxché, supported by civil society organizations, filed a complaint with the Ministry of Labour requesting a labour inspection of four companies, including Palmas del Ixcán, for lack of contracts, noncompliance with the national minimum wage and job benefits, violation of the rights of women and minors, and lack of health and hygiene measures or safe transport at work. But the inspection carried out one year later by the Labour Ministry, the Human Rights Ombudsman's Office, and the UN Office of the High Commissioner for Human Rights was not allowed to access the plantations or interview the workers. This demonstrates the government's inability to hold corporations accountable for their labour obligations and shows the need for companies to put in place adequate grievance mechanisms.

In both the Guatemala and Paraguay cases, women found fewer new job opportunities than men. On the oil palm plantations, women were working in the nursery and were paid lower salaries than men. They travel long distances to work, leaving their youngest children under the charge of the older ones, who often drop out of school as a result. Even when household incomes increased as members became waged workers, the family cohesion was affected and women's workload increased significantly. In sum, transforming small-scale producers into temporary workers adversely affected the quality of life in the communities surrounded by large plantations of soy in Paraguay and oil palm in Guatemala.

Risk, capital, and market power determine outcomes for smallholders

Inclusive business models that involve smallholders in agricultural supply chains have been presented as alternatives that minimize risks and maximize benefits (see, for example, FAO, 2013). Unlike direct land acquisition, out-grower schemes or contract farming might be viewed as a win-win option, with advantages for both investors and smallholders. But these models can also lead to exploitative and unbalanced relationships when the negotiating power is very unequal. They also involve high risk for smallholders when the introduced cash crop accounts for a large share of farmers' income, or the company is the only purchaser.

In Guatemala, Palmas del Ixcán involved smallholders in oil palm production for two reasons: the need for raw material to operate its processing plant profitably; and the increasing resistance by local communities to sell their land. The company sought support from the Guatemalan Government, which in 2008 launched an agricultural modernization initiative promoting oil palm cultivation as a profitable commercial alternative to basic grains. With publicly funded credit provided through a local farmers' association, which formerly supported small-scale corn growers, more than 300 independent producers planted 2,100 hectares of oil palm. But the anticipated three years of assistance was suspended after the first year when government priorities shifted, before the palm trees produced fruit (they need at least three years to mature). Without subsidies or technical support, the smallholders were unable to properly manage the trees, which produced lower than expected harvests. Unable to repay their debt, five years later the independent producers interviewed were at serious risk of losing their investment and their land.

Similarly, Desarrollo Agrícola del Paraguay invited several communities to engage in agricultural projects to mechanize their production and diversify to access new markets. In this case, the company's motivation was to establish good relations with local farmers, rather than to procure from them. With support from development agencies, including the US Agency for International Development (USAID), and the involvement of national organizations, DAP provided technical and financial assistance (to be repaid at harvest) to smallholders in some communities to mechanize their production, acquire inputs and services, and market their product. Recognizing that soy would not be profitable at a small scale (10 hectares is the average property size in the area) the company promoted cultivation of corn, beans, and sunflower. Many families decided to take part in these projects hoping to improve their income and reduce manual labour. But more than five years later, outcomes for small farmers did not match expectations. Once the initial start-up support from DAP ended, smallholders were unable to manage the input-intensive production and the risk entailed. As a result, yields declined and farmers fell into a cycle of indebtedness. Today, more than a third of the approximately 120 families who joined the project in 2008 are still struggling to get out of debt. Most have returned to their traditional practices and abandoned input-intensive, mechanized production, unable to cover the expenses with lower margins, as they are price takers without bargaining power. DAP's own evaluation of the results has led the company to reassess its projects and instead consider supporting organic production, which is less input-intensive and which it deems more appropriate to smallholder conditions.

In sum, industrial agricultural practices – which require highly intensive use of external inputs and mechanization services – cannot simply be replicated by small-scale producers. This model is very dependent on access to capital, requiring smallholders to go into debt to introduce it. Yet the high risk associated with climate and market conditions means that one bad harvest can easily trap farmers in a cycle of indebtedness, at peril of losing everything. The cases in both Guatemala and Paraguay clearly indicate that even well-intentioned initiatives to help small farmers improve their income and productivity can leave them worse off.

Corporate social responsibility should be more than social marketing or philanthropy

Agribusinesses are increasingly interested in demonstrating that they operate in a responsible way. This can help position them more successfully in niche markets where consumers are concerned about sustainability issues. Voluntary standards and certification processes offer a plethora of environmental and social labels that add value to the product and in some cases are a prerequisite to enter the market, such as the requirements of the European Renewable Energy Directive.

Palmas del Ixcán in Guatemala joined the Roundtable on Sustainable Palm Oil in 2008, although at the time of the study it was not certified. The company had initiated a certification process with the Rainforest Alliance (RA), whose standards are based on 10 principles set by the Sustainable Agriculture Network. These principles focus mainly on environmental impacts but also include other issues, such as working conditions and community relations. In order to obtain certification, the company had developed a 'good practices' plan that RA would help them implement. When the Guatemala case study was carried out, the process was in the first stage of technical assistance, so the diagnostic study had not yet been carried out by RA (interview with Mario López, in charge of the oil palm plantations certification programme at the Rainforest Alliance, 4 October 2012). When asked to explain its corporate responsibility policy, the company pointed out that it pays the salary of one school teacher, has donated school desks and school materials, and constructed children's parks with recycled material (interview with the head of corporate social responsibility of Palmas del Ixcán, 2 September 2012).

In Paraguay, DAP was one of the first companies to incorporate responsibility more centrally in its business model. The company is a member of the Roundtable for Responsible Soy, and at the time of the study it was beginning the certification process. DAP has invested in the local communities neighbouring its plantations from the beginning of its operations, through philanthropic actions as well as productive investments. The local population expects businesses that operate in the area to help satisfy their basic needs, thus filling a vacuum left by lack of public investment in rural areas. DAP made an effort to identify these needs and has financed medical services and school supplies, as well as well pumps, seeds, and small animals for family farms. This relationship of patronage perpetuates a practice previously established by cattle ranchers in the area. DAP has also supported production projects with smallholders to improve agricultural practices. While the projects were initially well received, they have had little success in improving small farmer livelihoods because key issues of access to capital, risk management, and power imbalances were not addressed. To its credit, the company has recognized the problem and is trying to re-focus its efforts to adapt better to local conditions.

In the case of Cargill, the company expresses on its corporate website its commitment to corporate responsibility throughout its supply chain and to promoting food security, environmental sustainability, and community development. Cargill asserts that its investment in Colombia's Altillanura region contributes to the country's national food security, creates new jobs, and improves rural infrastructure. But its land purchase operation in this region evaded the

legal restriction on land accumulation, as the land acquired had been previously distributed by the state to landless families. And while the company's infrastructure investments in the area have some spillover benefits for the local population, they are essential to its core business operations.

These examples show how corporate social responsibility is often confused with philanthropy and social marketing. But charitable actions cannot replace fair and transparent policies and practices with regard to environmental and labour conditions, or substitute for a strong commitment to national frameworks governing land tenure. Responsible investment should internalize 'external' environmental and social costs, preventing them where possible and compensating for damage to public health and natural resources, and for negative socioeconomic impacts. Where investment seeks to support smallholder production, responsibility implies understanding local needs and conditions, especially the capacity to deal with climate and price risks, in order that outcomes actually improve smallholder livelihoods. It is not philanthropy that will help ensure that investment has a net positive effect on communities. What matters is adherence to strong principles that should be inherent in the core business model – including respecting national laws and regulations, as well as international norms – and ensuring truly empowering and more balanced partnerships, which share benefits and risks in a fair and transparent manner.

The production model and the context are both important

In all three case studies, the land-based investments applied a model of capital-intensive industrial agriculture that is not always adapted to the conditions of small farmers. It takes advantage of economies of scale in the application of inputs, processing, and transport in order to produce high volumes of a single commodity, mostly for the global market (though in the case of Cargill in Colombia, the company asserts that corn and soy are produced for the domestic market). It ignores power imbalances in supply chains and markets. And it externalizes the social and environmental costs that result, including water pollution, soil depletion, biodiversity losses, and carbon emissions, while competing with traditional livelihoods.

The field research in Paraguay revealed how environmentally unsustainable this model is. Soy plantations in the country are having a serious environmental impact, whose costs are fully externalized. Weak government regulations and institutions are unable to protect the country's natural resources or the health of its population. Regardless of the fact that DAP is more respectful of the law than other agribusinesses, the accumulative impact of the company's operations contributes to degrade water, soil, and biodiversity resources that are already under pressure.

In Guatemala, communities neighbouring Palmas del Ixcán plantations reported social and economic problems that have made their lives even harder since the company began its operations in the area. Instead of the promised development, oil palm plantations have led to greater socioeconomic vulnerability and food insecurity for people who already lived below the poverty line. In both cases, evidence shows how these investments have undermined the lives and livelihoods of communities

near the plantations. These impacts are intrinsically associated with the production model. But they are not simply a by-product of the model. The impacts generated by any production model are also context specific and are contingent on local realities with regard to land tenure, government policies and institutions, power imbalances, history, and culture, as well as demographic factors.

In the Colombia case, Cargill ignored the full context of its land-based investment, failing to take into account national policies on land distribution and acquisition, or to consider the long-term impact of its interventions on highly complex and sensitive processes of agrarian reform. The policy and legal frameworks define the context for investments. But social, economic, and cultural factors also determine how those investments will affect the population, particularly the most vulnerable.

Insights from the cases studied illustrate the social and environmental costs of a large-scale industrial model of agriculture. In a context of inequitable access to land, failure to uphold the rights of the local population, inadequate environmental and labour regulations and enforcement, and lack of public support to improve small farmer livelihoods, the benefits of such a model tend to accrue to the few who control the investment.

Conclusion

The land-based investments reviewed in Guatemala, Paraguay, and Colombia, while different in many regards, are singular expressions of a broader phenomenon: the flow of private capital from corporations, investment funds, and international financial institutions to a sector that is increasingly attractive due to rising demand for agricultural commodities and competition for arable land. This should be good news for the millions of rural people living in poverty, as it could offer opportunities to increase their production and income, generate employment and promote technology transfer. Yet the research findings told a very different story.

In the cases studied, expansion of large-scale monoculture occurred in regions considered under-developed, where small farmers and indigenous people are struggling to subsist, often on land distributed by the state as part of land reform processes. This agricultural expansion, encouraged by governments with incentives and targeted investment, is displacing local communities and their traditional livelihoods. Even when land is not acquired, smallholders are virtually unable to coexist with large industrial farms due to environmental and health problems associated with the intensive use of agrochemicals. The announced benefits at the local level in terms of poverty reduction, food security, and better livelihoods were for the most part not realized in the cases observed in the field in Paraguay and Guatemala.

In Colombia, land allocated through agrarian reform processes to landless farmers ended up in the hands of Cargill, the world's largest agricultural commodity trader. In Guatemala, farmers were transformed into low-paid, seasonal workers in unsafe working conditions, and oil palm displaced cultivation of basic grains for household consumption, exacerbating food insecurity. And in Paraguay, intensive application

of pesticides and herbicides to grow Roundup-Ready soy is harming the health and livelihoods of families living near plantations.

The companies analysed have publicly expressed their commitment to corporate social responsibility, so are not representative of the broad universe of soy, oil palm or corn growers. But the evidence indicates that their positive efforts in support of small-scale producers and communities are more of a social marketing approach than a serious commitment to social and environmental responsibility. Their well-intended efforts fail to compensate for the problems caused by a production model that tends to deepen the concentration of wealth and land, limit the access to and use of resources, degrade the environment, harm the health of the local population, create exploitative labour conditions, and put at risk the traditional livelihoods of small-scale farmers.

Where more inclusive business models were applied, offering opportunities for direct involvement of local farmers in agricultural supply chains, the results were disappointing. In the cases reviewed, the companies supported the adoption of mechanization and external, input-intensive agriculture. But market power imbalances, structural barriers to access capital, and lack of risk management tools were not addressed. Most of the climate and price risk had to be assumed by smallholders, who ended up in more debt and risked losing their few assets.

Recommendations

While greater investment in agriculture is critically needed, in order to avoid these negative effects it is essential to ascertain what kind of investment is desirable. The responsible agricultural investment principles that will be adopted by the CFS should set a global 'gold standard' guiding all forms of investment by public and private actors relating to agriculture and food systems in order to foster sustainable development and help achieve the right to food for all. It is critical that these CFS principles surpass existing international standards in scope. They should set a new baseline that will guide investment practices as well as other more focused standard-setting initiatives addressing specific aspects of public and private investment. The CFS principles should be specific and comprehensive, covering all main issues that affect smallholders, including land-related impacts, and should provide clear and concrete guidance on what the different actors, notably private sector companies, should or should not do.

Responsible investment in agriculture should recognize the centrality of the biggest investors in agriculture – small-scale producers, particularly women. It should complement rather than displace investments made by producers themselves, addressing their needs and challenges and helping to unleash their full potential. Investment approaches should be grounded in human rights obligations and should in all cases avoid undermining small-scale producers' and local communities' livelihoods and rights, including access to and control over land and other natural resources.

Social and environmental costs should be internalized by companies and investors or compensated proportionally, to avoid generating private profits at the expense of communities and the society more broadly. Effective policies and binding regulations are needed in this regard. Companies and investors should also ensure respect for core labour standards and obligations under the International Labour Organization (ILO) and pay workers a living wage.

There is a need to address the models of investment and partnership, such as contract farming, as these make a big difference with regard to local impacts. The balance of power, how risk is managed and shared, and how access to and control over information, land, and other natural resources is affected, will to a large extent determine whether small-scale producers will benefit or their rights be undermined.

Bilateral assistance and international financial institutions, including the World Bank Group's International Finance Corporation, should promote more truly inclusive and sustainable models of agricultural investment and review the efficacy of their performance standards in light of the social and environmental outcomes in cases like the one in Paraguay. In all cases, third-party social, environmental, and human rights impact assessments should be carried out during the design phase of an investment with the full participation of affected communities, in order to avoid negative impacts on the rights and livelihoods of small-scale producers and to enable positive outcomes. There is a clear need to improve the capacity of governments and farmers to negotiate deals that respect the rights of local communities, as well as their ability to monitor and enforce those rights.

Finally, the role of the state is critically important in providing the right framework for private investment. A strong policy, regulatory, and institutional environment is essential to ensure that benefits and costs are fairly distributed and all rights are upheld. Public investment in key public goods – such as rural infrastructure for transport and storage facilities in remote areas, informal markets, education, agricultural research, and extension services that promote agro-ecological approaches – will yield strong economic and social returns that benefit the whole of society. And most importantly, the vast majority of small-scale farmers will not invest adequately unless the public sector fosters appropriate conditions to enable them to overcome the obstacles to their development, including strengthening their capacity and providing them with the right tools to deal with climate and price risks.

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