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Consolidating land, consolidating control

State-facilitated 'agricultural investment' through the 'Green Revolution' in Rwanda

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Abstract

Land-scarce Rwanda is an unlikely place in which to find 'land grabbing'. However, an ongoing legal, institutional and financial re-configuration of the agricultural sector in Rwanda facilitates increased penetration of rural smallholder farming systems by Rwandan and international capital which may include some large-scale 'land grabbing' by foreign corporations. More often, foreign agricultural investment in Rwanda is likely to take the form of involvement in contract farming arrangements with cooperatives. Such contracts are facilitated by the state, which when necessary uses coercive mechanisms as well as highly interventionist strategies (such as regional crop specialization policies and mandatory land use consolidation)to create an 'enabling environment' for agricultural investment. The Rwandan government has adapted neo-liberal tools, such as 'performance management contracts', through which it makes local public administrators accountable for agricultural 'development' targets, which are often explicitly linked to corporate interests. Philanthropic activities by international development agencies are also often intertwined with the activities of the state and foreign capital, so that a variety of actors and objectives are collaboratively changing the relations between land and labour, and exposing smallholder farmers to regional and global markets. Such processes suggest that the global 'land grab' is only one aspect of broader patterns of reconfiguration of control over land and labour in the Global South, and that critical attention should be paid to various modes of 'agricultural investment', not just acquisition of large areas of land.

About the author

Chris Huggins specializes in the political economy of land and agricultural reform, particularly the East and Central Africa, where he lived from 1998-2007. He is co-author (with Scott Leckie) of Conflict and Housing, Land, and Property Rights: A Handbook on Issues, Frameworks, and Solutions (Oxford University Press, 2011). He is currently a PhD Candidate in Geography (specialization in political Economy) at Carleton University, Ottawa.

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Table of Contents

1 Introduction

The commercial 'land rush' or 'global land grab' has, according to several studies, tended to involved the conscious targeting by corporations of some countries that have weak structures of governance (see e.g. Deininger and Byerlee*et al*, 2010). The governments of such countries are unable or unwilling to adequately regulate the use of land and natural resources and related factors such as environmental impacts and labour rights. Legal frameworks in such countries may be outdated, undermined by internal contradictions or biased against certain claims to use and ownership (such as customary claims).Where effective regulations exist, such countries are unable or unwilling to monitor compliance by corporations or enforce the law. Many of the countries experiencing large-scale land acquisitions are also portrayed (by those advocating 'foreign agricultural investment') as having large tracts of underused or so-called 'vacant' land. Research suggests that most of the land being leased by international 'investors' is state-owned (Cotula, 2012: 671), and hence often characterised by poor protection of local citizen's rights to land. It is perhaps these two factors: weak governance and perceived availability of cheap land, that explain the fact that the majority of large-scale land acquisition is occurring in Africa (Cotula, 2012: 651; Anseeuw*et al*, 2011: 23).Multinational corporations and other actors are therefore easily able to purchase or lease land for the production of food, biofuels or other commodities. Such deals have been criticised for failing to create significant sustainable benefits for local communities or the countries as a whole, while potentially displacing and dispossessing citizens with claims to land and resources, and negatively affecting livelihoods of a broader group of citizens through secondary and tertiary economic, environmental and socio-political impacts (Anseeuw*et al*, 2011).

Rwanda is *not* one of these countries described above. Far from being abundant in vacant land, it is experiencing acute land scarcity: the average total household landholding in Rwanda is about three-quarters of a hectare, which usually comprises several small plots.[1] Neither is it characterised by the classic indicators of 'weak governance' mentioned above. It has a well-organized state apparatus, which extends through an effective chain of responsibility down to the local level; it has, over the last decade, put in place an array of laws, regulations and policies on land, agriculture, investment, settlement and other relevant questions. It has recently concluded a nationwide programme of land registration during which every parcel of land in the country was registered – a programme which has been generally seen as successful (Ali et al, 2011), particularly regarding women's land rights (Daley et al, 2010). Its government is seen as more capable, at least in a technical and administrative sense, than most countries in Sub-Saharan Africa. As an 'aid darling', it has benefitted from the highest per capita levels of aid in Africa, which has been used to build infrastructure, improve government technical capacity, and fund programmes of post-genocide 'justice and national reconciliation'. Even as it remains highly aid-dependent, it has proved itself adept at reducing the conditionalities attached to aid, and has increasingly acquired direct national sectoral budget support (rather than funding for specific programmes or projects) (Zorbas, 2011). The ongoing agricultural reform in Rwanda has drastically improved agricultural yields – at the national level, total yields for some crops have reportedly doubled or even tripled over the last few years –and has been widely praised in the mainstream media and by major international organizations (see e.g. Concern Worldwide, 2011; Majyambere, 2012; Riungu, 2011; AGRA, 2010).[2] It is an ambitious state, with a clear 'vision' for the future, and an explicit 'modernisation' agenda, often held up as a

[1]Statistics on average land holding vary slightly from source to source. The size of average agricultural plots decreased by 25% between 1990 and 2000 (Vinck et al, 2009) but according to MINAGRI 2012 the average holding is currently 0.76ha, which is higher than previous estimates. The processes through which the size of average landholding has apparently increased over recent years is not yet clear.

[2] These accomplishments are discussed in more detail on pg 23 of this paper

regional and continental "success story" and role-model for development (Dagan, 2011; Zakaria, 2009). While each of these elements has been subject to very convincing and significant critiques (see for example various contributions in Strauss and Waldorf, 2011), the point is that Rwanda does not fit the typical profile of a country that would experience 'land grabbing'.

However, this assumption is only partly true. It is precisely *because* of the formidable capacities of the state that the political economy of agricultural commercialization in Rwanda will involve penetration of rural economies by regional and global capital, *through large-scale land acquisition in some cases*, but also through complementary processes. This analysis supports the thesis that so called 'host countries' often play a key role in facilitating the 'land grab' (Cotula, 2012: 670-1), but to some extent differs from the usual emphasis on the role of "business activities, political patronage and personal gain" (ibid) on the part of local elites. In Rwanda, facilitation of foreign and domestic agricultural investment is very clearly linked to central government strategies for economic development. While individual actors do benefit in various ways from agricultural deals, the central government coordinates the linkages between land, labour and capital, and it is the political centre of power that is pushing the 'agricultural investment' agenda. This situation of effective central state control (rather than a more fractured situation of local patron-politics) is somewhat similar to what Landers (2012) describes in Ethiopia. One of the key differences between these two cases however is the ubiquitous nature of land scarcity in Rwanda, whereas land pressure in Ethiopia is less uniform. The difficulty in identifying large tracts of 'unused' land for commercial acquisition has prompted more innovative strategies on the part of the Government of Rwanda (GoR).

The ongoing legal, institutional and financial re-configuration of the agricultural sector in Rwanda facilitates increased penetration of rural smallholder farming systems by Rwandan and international capital. This may include some large-scale 'land grabbing' by foreign corporations, but is more likely to take the form of expansion of state-imposed contract farming involving coalitions of foreign and domestic capital, and market-based accumulation of land by wealthy and politically-connected elites (land concentration). While such land concentration will involve 'willing buyers and willing sellers', this process can only be properly understood through an explication of the coercive underpinnings of parts of the rural economy, including regional crop specialization policies and the unaccountable control that elites are able to operate over many agricultural cooperatives.

It is the GoR's restrictive working concept of 'land rights', and its formidable legal, administrative and coercive capacities to impose conditions on processes of agricultural production and marketing that are key 'enablers' of agricultural investment. These conditions are imposed in order to move towards the state's vision of a commercial, export-driven, 'modern' and mechanized agricultural sector. This 'modernisation' agenda is associated not only with access to chemical inputs (particularly fertilizers), irrigation and other technologies, but also incorporation into commercial value chains, particularly through contract farming and access to credit.

2 An Overview of the Political Economy of Agricultural Reform in Rwanda

The GoR has, since around 2006, embarked upon a process of radically re-structuring the agricultural sector. This restructuring has been designed by the ruling Rwandan Patriotic Front (RPF) political party, which has controlled the country since the 1994 genocide.[3] The state was faced with a mammoth task of reconstructing state institutions after the genocide, in which over 800,000 people were killed and much social and material infrastructure was destroyed. In the process of

[3] The RPF has officially ruled since the end of the political transition period in 2003; prior to that it was also the major decision-making entity in the post-genocide government of national unity.

reconstruction, the Government and donors made a symbolic 'break' with the past, bringing in many economic policies associated with neoliberalism(Harrison, 2010).The RPF, led by President Paul Kagame, has mobilised rhetoric and concepts from current neo-liberal economic and 'development' discourses, but has adapted them to the Rwandan political context of centralized authoritarianism (Strauss and Waldorf, 2011). For example, the 'good governance' concept in Rwanda has greater emphasis on efficiency and anti-corruption principles, and less on citizen empowerment, than elsewhere, and public institutions and state administrative officials have to sign 'performance contracts', an essentially neo-liberal tool that has been adapted in ways that will be discussed below. The GoR has facilitated foreign investment in almost all sectors of the economy, including in the agricultural sector (Veldman and Lankhorst2011). The number of bureaucratic procedures involved in the foreign investment process has been reduced, and Rwanda has moved rapidly up the ranking of the World Bank's "Doing Business" report. Like many countries, Rwanda is following a path that might be termed "market-oriented authoritarianism." This politico-economic orientation has its own internal contradictions and tensions, most notably around administrative decentralization policies, which are challenged by a political culture of highly centralized decision-making, and the privileged position occupied by corporations owned by the RPF, which is likely to limit options open to private corporations in certain sectors of the economy (Gokgur, 2012). Rwanda has also implemented various social welfare programmes, such as 'free' primary education and a national health insurance scheme that, while based on user contributions, are subsidised by the state.[4] The 'neoliberal' label can therefore only be applied to Rwanda with various caveats attached.

2.1 Rwanda and the 'Green Revolution' Paradigm

The GoR explicitly frames agricultural reform as part of the 'African Green Revolution'. Some critics consider the main impetus for the African Green Revolution to come from multinational companies, many of which, such as MONSANTO and SYNGENTA, dominate trade in a variety of inputs including improved seeds, pesticides, and inorganic fertilisers. According to these critics, such corporations play an important role, largely behind the scenes, while "allowing" multilateral research organizations, African regional and non-governmental institutions and African political figures to 'appear' to take the lead (Dano, 2007: 56).

Rwanda has hence been described as "capitulating" to corporate interests (Milz, 2011), based on the fact that multinationals supply many of the inputs purchased by government and farmers. For example fertilizers are largely supplied by the Norwegian company, Yara International ASA.[5]More generally, much scholarly analysis on contemporary agricultural transformation has focused on international drivers of the contemporary 'land grab' phenomenon, with less attention being paid to the role of national elites (Cotula, 2012:651), and "how these international processes interact with domestic political economy, what role the state plays in agricultural investment and its role in influencing changing agrarian relations" (Lavers, 2012: 796).

It is true that African agricultural reform operates within a broader discourse long-dominated by western capitalist values, vocabulary and actors. Policies emerge from, and reflect, knowledge systems enmeshed in unequal power relations (Foucault, 1980; Escobar, 1994). That being said, the agency of African governments and African entrepreneurs within such processes is underestimated. For example, several studies have described the sophisticated and determined way in which the

[4] While there are no formal school fees in place, parents are often asked to make informal contributions (e.g. for maintenance of school infrastructure).

[5] In 2012 Yara awarded the Rwandan Minister for Agriculture an international award recognizing the achievements of the Rwandan agricultural reform. A previous winner of the Yara award was the Ethiopian government, which has also used coercion to achieve agricultural goals, including getting farmers to purchase large amounts of Yara fertilizer.

Government of Rwanda has dealt with international donors in order to retain a high degree of control over its policy-making processes (Zorbas, 2011; Hayman, 2009). The Rwandan government has put its own stamp on the generic model of the 'African Green Revolution', especially in terms of regional crop specialisation and land consolidation. The GoR enjoys control over the financing of the reform, despite the large proportion of agricultural funding that comes from donors.[6]For example, while some donor funding is directed towards specific projects, the majority of donor funding goes directly to the government budget where it can be used without much oversight or direction from donors.[7]Rather than seeing all influence coming from external sources, it is more realistic to visualize an interplay of interests and ideas between African states and external actors (both corporate and government). A *confluence of interests* results in particular policy and programme outcomes.

2.2 Internal Drivers of Change in the Agricultural Reform

Policy-making is an elite-driven affair in Rwanda, as elsewhere. The poor smallholder majority arguably has little influence on the political situation.[8]Policy-makers have few institutional or personal connections to rural development issues, and many tend to have a condescending or even disdainful attitude to poor smallholders practicing 'traditional' forms of agriculture (Ansoms, 2009).The National Land Policy perhaps summarises this perception most succinctly when it states that ''the peasants are practicing a mediocre agriculture that has no future'' (MINITERE, 2004).Rwandan civil society, which includes many rural development and farmers' organizations, has little capacity to influence policy and has been largely reduced (through state practices of cooptation and control) to a role of 'policy implementation'. While government controls on civil society are largely framed by the GoR and many of its 'development partners' in the fragile post-genocide context, Rwanda has a long history of authoritarian state-driven socio-economic re-organization and extraction (Newbury, 1988; Des Forges, 2006).

Rather than responding to particular demands 'from below', then, the GoR's current investment in agricultural reform comes 'from the top'. Nevertheless, the process of developing the land policy and the 2005 land law was hailed by the GoR and many donors as a comprehensive and participatory consultation process (Musahara and Huggins, 2005). There was considerable attention paid to the process by major national and international organizations, which recognize the central importance of land to social, economic and political processes.

However, the land law and policy are only part of the regulatory regime affecting 'land rights'. The agricultural policy and associated programmes place multiple conditions on rural land use. It is therefore of concern that much less international attention was focussed on the design of the agricultural reform, which involved only a perfunctory consultation process (Minagri, 2004).[9]There was a striking lack of field testing regarding the agricultural policy.[10]The selection of crops for the regional crop specialization programme was done following a short pilot programme (Ansoms, 2009). The claims that policy is implemented in a participatory way are assessed further below.

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[6]Around 45%of the identified agricultural budget from 2009-12 was funded by foreign donors, according to the Ministry of Agriculture (MINAGRI, 2010b).

[7] In line with the commitments it made as part of the CAADP, the Government has increased the annual budgetary allocation to agriculture from 4.2% of the national budget in 2008, to nearly ten percent in 2010/11 (Concern, 2010).[7]

[8] Rwanda has regular multi-party elections but these take place within a context of a highly constrained political system (see various discussions of electoral politics, in Strauss and Waldorf, 2011)

[9] The consultation process consisted of seminars with government, donors and private sector actors; there was little if any effort to involve smallholder farmers in this exercise, and civil society was barely included.

[10]The Strategic Plan for Agricultural Transformation in Rwanda (SPAT) had a one year 'pilot phase' in 2005, but this appears to have involved only institutional and regulatory activities, without any field trial elements (Minagri, 2004).

The impetus for reform seems to be largely driven by three dynamics. *Firstly*, the ambitious development targets in the country's 'Vision 2020' document necessitate that economic growth increases by an average of 13% per year for Rwanda to reach middle-income country status by 2020 (MINECOFIN, 2000). Agricultural commercialisation and growth are identified as key elements of economic expansion. *Secondly*, the very real land scarcity experienced in the country also necessitates urgent intervention. The GoR is particularly concerned about the negative effects of land fragmentation (MINITERE, 2004). Average population density is now more than 400 people per square km by some estimates (MINAGRI, 2012), the highest in Africa, and the population growth rate remains very high. Moreover, per hectare yields are low. One does not have to be a Malthusian to be pessimistic about a business-as-usual scenario in Rwanda. For many years now, observers have been arguing that, "Rwandan agriculture is at an abyss" (Robins, 1990).The GoR seems to agree: senior administrative personnel have described land scarcity as Rwanda's "time bomb" (Sommers, 2006), and the national land policy recognises competition for land as a source of conflict.[11]*Thirdly*, the GoR maintains a discourse of national 'self-sufficiency' and intensely dislikes the various implicit and explicit 'strings' attached to international aid. In line with President Kagame's frequent exhortation for Rwandans to become "entrepreneurial", the agricultural reform is designed to increase domestic and international capital investment in the farming sector and eventually decrease dependence on 'aid'.

2.3 The Goals of the Agricultural Reform

The Government has therefore embarked on an ambitious project that is explicitly intended to reduce the numbers of people relying on agriculture from 90% of the total population in 2000, to 50% in 2020 (MINECOFIN, 2000). This aligns with government plans for mechanization, land use consolidation and economies of scale, which reduce the labour-intensity of production.
Government documents describe the 'vision' of the reform as:

> *"A sustainable agricultural sector ... where farming is seen as a business, rather than subsistence, activity. This will create a sector that uses its comparative advantage, for example in labour-intensive, high-value crops, to compete in open regional and international markets."*
>
> MINAGRI, 2010a: 8

This fits with the vision of the National Export Strategy, which is to: "Transform Rwanda into a globally competitive export economy" (Government of Rwanda, 2011). The main export destinations for agricultural produce include Africa, the Gulf states and South Asia (Booth and Golooba-Mutebi, 2012: 11).The main strategy of the GoR is to increase the rate at which the smallholder majority (who are petty commodity producers cultivating both for the market and household consumption) either a) further integrate into markets and become agrarian (proto-) capitalists ('professional farmers' in GoR terminology), or b) are pulled or pushed into debt and sell their land, turning to non-farm occupations or providing paid casual farm labour.[12]

Processes of market integration are driven by state-imposed crop choices and cultivation regimes enforced through the use of fines and imprisonment, where necessary (see examples below). These

[11] The GoR has created a discourse in which the country has emerged from conflict and crisis into a present and future characterised by stability, unity and economic growth.

[12]It is far from clear what non-farm livelihood options this emerging landless class ismeant to take up. According to most sources, relatively few new sources of employment have been created in recent years (USAID, 2011). The GoR has focused on an information technology and service-based 'knowledge economy' model which seems likely to benefit a relatively small proportion of the population, while many informal livelihoods have been criminalized (Sommers, 2012).

issues have not been adequately acknowledged by most donors and other key international development actors.

2.4 Domestic and Foreign Corporate Investment in the Agricultural Sector

Domestic investment in agriculture has not met the GoR's expectations, despite the establishment in 2005 of an Agriculture Guarantee Fund to encourage bank lending to the sector (Booth and Golooba, 2012:10). The GoR has also recently constructed a cold-storage facility at the international airport to facilitate horticultural exports (Booth and Golooba-Mutebi, 2012:11).

There are signs that domestic and foreign investment is increasing. According to the Rwanda Development Board (RDB), agriculture was for the first time in 2011 the most significant sector in terms of planned investment (domestic and foreign). Some US$116.3million of investment in agriculture was registered at the RDB in 2011, of a total of US$598 million for all sectors of the economy combined. Of this US$598 million, approximately US$371 million was foreign direct investment (Anonymous, 2012a).[13]

Much investment has been directed towards commercial development of marshland areas, which are owned by the state (Ansoms, 2012). Outside the marshes, where land is held by individuals, the GoR seems to be cautious about very large-scale land acquisition (see below). The GoR seems to be encouraging only small-scale commercial land acquisition at present: having prioritised flower and fruit production as high-value sectors where Rwanda has some competitive advantage, it is currently inviting investment in a 200 hectare (ha) plot in Eastern Province for the development of a high-tech flower farm.[14] It has also 'given' 600ha of land to a maize and soya farm.[15] At the moment, the standard model in Rwanda is for investors – whether domestic or foreign – to enter into production contracts with local cooperatives.

In addition to horticulture, the GoR has also embraced the potential of biofuel. It is for this reason that one of the largest foreign land acquisitions to date involves the production of jatropha, for the production of bio-diesel (see case study below).

3 The National Agricultural Policy and the Crop Improvement Programme (CIP) in Rwanda

Since 2004, the Government of Rwanda (GoR) has put in place the legal and institutional elements of a national agricultural reform, as part of a broader vision for radical change in the country (MINECOFIN, 2000). The following section describes the broad outlines of this ongoing agricultural reform in Rwanda. Before embarking on this description, some qualifying statements are required. Although Rwanda is a small country, it is quite diverse in terms of its agro-ecological conditions and the socio-political characteristics of local communities. The agricultural reform is a highly complex undertaking inherently bound to factors beyond the control of the state, such as weather conditions and global market forces, and is being implemented at different speeds and in slightly different ways around the country. The nature of farmer-state relations also differs from place to place (Pritchard 2012; Minagri, 2012).Therefore, as noted elsewhere, there are likely to be regional variations in processes of agrarian transition (Byres 1991) linked to multiple social, political, economic and ecological factors.

[13]However, actual investments may turn out to be less than this: for 2005-10, only one-third of what foreign investors pledged with Rwandan Development Board (BRD) was actually invested (Gökgür, 2011).

[14] Advertised on the website of the Rwanda Development Board; accessed 18th July 2012 at http://www.rdb.rw/rdb/agriculture.html

[15]This is managed by Bralirwa, the private brewing firm, and maize processing firm Minimex: Bramin.

While the GoR projects a sole trajectory of agricultural 'development', it is possible to discern some pragmatism in the nature of policy implementation, which may be a result of reinterpretation and renegotiation of policy directives by local-level administrators.[16] Therefore, while the cases and analysis in this paper reflect wider patterns across Rwanda, there are undoubtedly great variations in levels of state coercion and modes of intervention in the agricultural sector.

A central element of the reform is the Crop Intensification Programme (CIP), which aims to increase agricultural productivity on a per-hectare basis, largely through water management (including marshland reclamation), soil and conservation measures, regional crop specialization and increasing the use of fertilisers. The seven crops selected by the government since 2006 for regional crop specialization were maize, rice, wheat, beans, soybean, Irish potato, and cassava (MINAGRI, 2012). Each individual administrative sector (an administrative unit smaller than the district, larger than the cellule) typically specializes in only three of these. Households have to dedicate a proportion of their land – often all of it – to these crops.[17] Those who do not may be punished. In Kirehe District, Eastern Province, those who tried to continue their traditional practices of growing ''banned'' crops, while also cultivating ''approved'' crops, were fined and had the 'prohibited' crops uprooted. Punishments are occasionally more severe: some residents have experienced beatings at the hands of a captain in the Rwandan Defense Forces (Huggins, 2009) and at least one farmer was been physically beaten by sector authorities in 2011 for planting non-approved crops.[18] Most studies of the Rwandan agricultural sector overlook this coercive element (such as Booth and Golooba-Mutebi, 2012), even though concerns have been consistently raised by some observers over a period of several years (see e.g. Des Forges, 2006; Musahara and Huggins, 2005; Ansoms, 2009; Huggins 2009). An institutional culture of paternalism and 'enforcement' in agricultural extension dates back to colonial practices of forced commodification of agricultural labour (notably the coffee sector) and, arguably, in pre-colonial practices. (Newbury, 1988)[19]

The government has represented the agricultural policy as a 'participatory approach' on the basis that the crops were selected according to "the preferences of farmers" (Republic of Rwanda/United Nations, 2007). However, the government's own documents demonstrate that the crop intensification program was developed by state agencies, not farmer's associations or any other organization directly representing the interests of farmers (Anonymous, 2007).Most of the government-selected crops appear to have been selected for their significance in national and regional markets (rather than, for example, nutritional characteristics).

The government appears to have designed the regional crop specialization programme in part to make existing agro-processing facilities viable. Many of Rwanda's agro-processing facilities are operating at less than full capacity. There are often logical reasons for this phenomenon: for example, locally-grown maize costs significantly more to produce than maize produced elsewhere in the East African region. It is therefore not surprising that one of the very few large-scale maize processors in Rwanda, MINIMEX, has operated at about 14% of its total capacity (van der Laan, 2011), as consumers can cheaply purchase maize flour from Uganda rather than from MINIMEX. The

[16]Pottier (2002) emphasises the importance of the processes of local-level reinterpretation of laws, policies and directives in Rwanda.

[17] Crop rotation is practised for purposes of maintaining soil fertility. For example, in parts of Musanze District, one season is dedicated to maize, another to potatoes. Both are selected crops under the crop improvement programme.

[18] Interviews with several farmers, Kirehe District, July 2011

[19]The centralized monarchical system made access to land and productive resources (notably cattle) contingent on political loyalties, particularly the supply of labour-power and material offerings of tribute.

regional crop specialization in maize thus appears to be a case of supply-side intervention, where demand is questionable.

The government (through its network of agronomists and local administrators) specifies the seed varieties which are in some cases provided free but must usually be purchased and sown by local farmers; access to seed is often managed by state and para-statal institutions. Rwandan research institutions have successfully developed new varieties of several crops (AGRA, 2010.) In addition to the use of selected seed varieties, the increased use of inorganic fertilizers is also a key element of intensification. The government aims to increase national annual fertilizer use from less than 5,000 metric tonnes (MT) in 2005to 56,000 MT by 2012 (Morris et al, 2009). Fertilizer is supplied by the local administration in collaboration with commercial suppliers, who win tenders to supply fertilizer through auction. At present, the GoR subsidizes inorganic fertilizer so that the cost to farmers is about 50% of market value; however, donors have expressed concern about the economic viability of fertiliser subsidies. The GoR has declared that it will phase out subsidies from 2012 onwards (MINAGRI 2010a: 14) with subsidies to be reduced to 20% in 2013 (MINAGRI, 2011). In at least some parts of Rwanda, such as Kirehe and Musanze Districts, local officials oblige farmers to purchase fertiliser, whether they want to or not. Farmers are offered fertiliser on credit, and have to reimburse the cost at the time of harvest. Farmers are forbidden to sell fertilizer or apply to crops other than those approved by government, and have been arrested for selling it.

The massive increase in funding to the agricultural sector has increased the material resources available to some civil society actors but has further entangled them within state bureaucratic networks. For example, agronomists working for one of the largest farmers' organizations sometimes describe themselves as working "for" government programmes such as the CIP. Their methods of working (from the planning stages to the day-to-day extension work) are completely intertwined with state designs and activities. The largest 'farmer's organizations' have largely lost their policy advocacy role; smaller organizations have offered some criticism of policy implementation, but are constrained by the authoritarian governance context (Gready, 2010).

According to the government, there were 1,105 agricultural cooperatives in Rwanda in 2007. The government aims to more than double this figure to 2,242 by 2012 (MINECOFIN, 2008). The formation of agricultural cooperatives is central to the agricultural reform. Agricultural cooperatives in Rwanda, as elsewhere, are characterized by diversity: there are producer cooperatives, marketing cooperatives, small and large cooperatives. Some cooperatives are founded voluntarily by farmers, without any state coercion, and have secured their members good prices for their produce. For example, a potato-marketing cooperative in Northern Province grew larger and more successful in recent years, partly through the activities of a number of experienced and wealthy farmers with access to agribusiness networks, trucks and government credit.[20]Farm-gate prices have improved for cooperative members.

In other cases cooperatives are formed entirely by local elites associated with the authorities (and who often hold positions in the administrative hierarchy) and farmers are pressured to join them. In Kirehe District, for example, farmers feel that, "you cannot differentiate between the cooperatives and the state institutions. The leaders [of the coops] are often the local authorities".[21]A study on 20 cooperatives in both Northern and Southern Province found that only 68 per cent of respondentsagreed that the establishment of the cooperatives was "mostly driven by farmers" (Bizoza, 2011: 30). The pressure to form cooperatives has in some cases forced people to share

[20] This is a potato-marketing cooperative that does not get directly involved in aspects of production. Marketing cooperatives are generally thought to be less problematic than producer cooperatives, which must contend with a variety of technical, legal, financial and social challenges (Selden, 1993: 71).
[21]Interview with male smallholder farmer, Kirehe District, Monday 30th May 2011.

financial resources with people that they do not know or trust (Bizoza, 2011: 31). Authorities sometimes appoint cooperatives as the only state-sanctioned purchaser of particular agricultural commodities in a local zone, fining farmers who try to sell outside of the cooperative system.

These interventions are based upon a logic of economies of scale: cooperatives are cost-effective ways (from the state's perspective) to bring farmers together in order bring more land and labour under the crop intensification programme, and so that contracts with agri-business can be more easily negotiated. For supporters of the policy, cooperatives have the positive benefits of "retaining family land rights and production incentives" (Booth and Golooba-Mutebi, 2012:9). However, land rights are restricted by agricultural policies, and profits are subject to the risks of misrepresentations of market potentials and poor financial management within the cooperative. They are also essential to increase land use consolidation and state control over crop production. The government encourages the formation of cooperatives, rather than associations, as they require investment of capital from farmers (facilitating commercialization) and have to produce regular reports on membership, activities, availability of capital and other matters. This makes them preferable to associations for the purposes of state monitoring and analysis.

Land Tenure, Land Consolidation and Agricultural Intensification

The land registration process in Rwanda was technically impressive from several perspectives, including the speed at which it was done, and the recognition of women's claims to land. However, the lease-rights that have been granted (of renewable 99 year duration in rural areas) are subject to several conditions associated with the agricultural reform. In most parts of the country, land *use* consolidation is one of those conditions. Households, particularly those in producer cooperatives, are told to consolidate agricultural production by changing intercropping techniques for mono-cropping of government-approved crops on adjacent fields (Republic of Rwanda, 2005, article 2).The minimum size of a consolidated plot should be 5 ha (MINAGRI, 2012).The total social, political and economic impact of land consolidation can be highly significant: "in some cases, the land consolidation also requires resettlement of family housing units...farmers and local government authorities collaborate in rearranging land parcels, growing priority crops, selling and processing of agricultural produces and distribution and marketing of agricultural products" (MINAGRI, 2012).

Only farmers who agree to consolidate land use benefit from the CIP package (MINAGRI, 2012). This means that in practice, land consolidation is often forced upon farmers by local administrators (sometimes in collaboration with cooperative leaders) keen to achieve their development targets. According to official government figures, 502,917 ha had been consolidated in 2011; this represents about 36% of the total arable land area (calculated from MINAGRI, 2012)[22]. The government wants 70% of arable land to be consolidated by 2020.

The Agricultural Policy and the Land Law stipulate that land can be confiscated by the government if farmers do not follow agricultural policies, land-use master plans or other government programmes and regulations.[23]For example, Article 74 of the Land Law allows for the state to 'requisition' land for three years, renewable for an additional three years (Republic of Rwanda, 2005).

[22] It is possible that this is an overestimate, due to the temptations that local authorities face to exaggerate their successes under the *imihigo* system. Many local authorities have been found to have falsified data, according to articles in the Rwandan media, notably the *New Times*.

[23]The intention appears to be to requisition land which has been left 'unproductive' or 'degraded'.However, Article 63 states that, "Productive use, appropriate protection and sustainable land productivity shall be based on the area's master plan and the general structure on land allocation, organization and use and specific plants certified by relevant authorities." This clearly makes those who refuse to follow the CIP and other government policies vulnerable to confiscation of their land.

While there is little evidence that such land confiscation has taken place on a large scale to date, the *threat* of confiscation by local administrators has been well-documented (Pritchard, 2010; Huggins, 2009; Ansoms, 2008).The restriction on land-use rights means that Rwandan farmers do not have the private property rights (comprising full rights of use, enjoyment of profits and transfer) that are a keystone of liberal and neo-liberal development paradigms. These restrictions provide the GoR with the means to organize crop production in line with the interests of domestic and international agri-business.

The massive input of fertiliser, germplasm and other inputs into the Rwandan agricultural system has resulted in increased yields for many crop types. For example, total cereal production increased from approximately 320,000 MT in 2004/5 to more than 600,000 MT in 2009/10 (GIEWS/FAO, 2010). According to government data, cassava production has almost tripled and total Irish potato, soybean and beans yields have approximately doubled (MINAGRI, 2012). Per hectare yields for other commodities have increased in the aggregate as well. The total land area cultivated has increased by 13% in recent years (MINAGRI, 2012). These gains have translated into a reduction in the incidences of malnutrition (Kalibata, 2010) and an improvement in food security more generally. These are important gains, and many actors have celebrated them (refs). However, less attention has been paid to the ways in which control over land, labour and agricultural seed stock has been radically reconfigured, and the likely results of these changes on modes of interaction between smallholder producers, the state and large-scale corporate entities.

4 Emerging Patterns within the Agricultural Sector in Rwanda

Several emerging modes of interaction between land, labour and investment can be identified. Many of these are responses to the difficulties (both practical and political) of facilitating large-scale commercial land acquisition in land-scarce Rwanda (Booth and Golloba-Mutebi, 2012:11).

First, the ways in which the state intervenes in commodity chains suggests an emerging model of *state-imposed contract farming*, particularly through cooperatives, but potentially at the household level. The expansion of contract farming is also being seen elsewhere in the region, such as in Kenya, where it largely lacks the coercive dimension (Mbogo, 2010), and Ethiopia, where coercion is a factor (Lavers, 2012). Some commentators on the 'land grab' debate have recommended contract farming as an alternative to outright leasing of land and direct control of production by corporations (von Braun and Meinzen-Dick 2009), as it is seen as a way to link rural producers to the global economy without triggering dispossession and displacement. The Government of Mexico, for example, took this route in the 1980s, given the political sensitivity of the agrarian question (Little and Watts, 1994: 4). According to Goodman *et al*, "selected rural activities have become sectors of accumulation for different fractions of industrial capital" when the state and corporate interests have become "unable to subsume the rural process *in toto*"(Goodman et al, 1987: 6). While this approach may be preferable to the 'land grab', the imbalance in power between the farmer and the contracting parties may lead to an exploitative situation (Clapp: 1994: 79).

In Rwanda, the state is in the process of "actively negotiating public-private joint ventures in which the state subsidises the initial learning costs and demonstration effects" (Booth and Golooba-Mutebi, 2012:12), for example by providing land for demonstration farms. While the state subsidises the investments made by corporations, however, it arguably does less to protect the investments of labour and capital made by cooperative members. The Rwandan experience of contract farming is likely to be characterised by the coercive role of the state, which allies itself with national and international capital, and which possesses effective disciplinary tools to monitor and enforce its will. One of the most important tools is the performance contract – known in Rwanda as *imihigo. Imihigo*

makes local authorities directly responsible for achieving quantified targets. Rather than being accountable 'downwards' to the population, the administrators are accountable 'upwards' to their superiors (Ingelaere, 2011). While the process of choosing quantitative targets for *imihigo* is presented by the government as a negotiation between different levels of government, in conjunction with the population who are 'consulted', it is clear from interviews that *imihigo* targets are largely imposed from above (Huggins, 2009).Local authorities are likely to lose their jobs if *imihigo* targets are not met, and are hence likely be tempted to pressure smallholders to accept unfavourable arrangements.
The Rwandan state has begun to harness the *imihigo* structure for corporate interests. The Government information service has announced for example that investors, in conjunction with IRST, are interested in buying jatropha from Kirehe District (Eastern Province), on the basis that it is added to the District *Imihigo* and hence produced across the "whole District" (Kanyumba, 2011).[24] In 2012, the GoR started to introduce the *imihigo* system at the household level (Bucyensenge&Musoni, 2012). There will likely be an imposed convergence between *imihigo* targets at different administrative levels (district, sector, cellule and household) in order to increase government control over agricultural commodity chains from the household field through to the moment of export.

Secondly, the state often tries to catalyze commercial production of 'niche crops' by communicating unrealistically optimistic estimates of profits to smallholders, and suggesting that market linkages– such as contracts – are firm when in fact they are uncertain. In the cases of moringa and patchouli, for example, aggressive promotion of these crops by the government in the early 2000's led smallholders to invest labour and money in moringa or patchouli production cooperatives. Over-optimistic estimations of market demand, and sometimes the failure of actors to address technical issues such as storage, led to low farmgate prices and abandonment of crops in many cases (Niyonagize, 2011).

Agronomists and local administrators have also encouraged – or in many cases, forced – smallholders to grow flowers or fruit, rather than the staples that customarily make up the Rwandan diet (such as bananas, sorghum, cassava, and beans)[25] to which a typical farmer's reply was, "can we eat flowers"?[26] This rhetorical statement is best understood not as an argument for subsistence production, but rather a recognition that, when markets are uncertain, it makes sense to grow crops which can be used both for commercial sale and for home consumption.[27] A common complaint is that markets for fruit and flowers are not yet adequately developed in Rwanda. One study, which is generally very supportive of GoR strategies, acknowledges that, in terms of the horticultural sector, "the uptake of opportunities is beginning to be viewed as disappointing. Limitations of the current approach are being recognised... that is to say [as] problems of market coordination" (Booth and Golooba-Mutebi, 2011). Investors are unwilling to commit to purchases until output potentials have been demonstrated, while farmers do not want to cultivate crops for which the market is doubtful. Frequently, the state has intervened to 'promote' cultivation of particular crops before contracts are final. The failures of the local authorities to line-up buyers for maize and other crops led to large post-harvest losses in Eastern Province in 2008 (Huggins, 2009; Hahirwa, 2012) and chilli-pepper commercialisation projects have failed to benefit farmers (Office of the Inspector General, 2011).[28]

[24]Unofficial translation of Kinyarwanda original.
[25] The situation differs from one area to another, due to the regional crop specialization policy.
[26]Interviews with smallholders, Muhanga District, 2006.
[27] Rwandan smallholders are not averse to market production; they are already semi-integrated into local markets, selling an average of around half of their production, and reserving the rest for home consumption, barter and seed.
[28] Local authorities outlawed the sale of maize until a state-approved buyer was identified; by the time the authorities arranged the purchase of maize by this buyer, much of it had been affected by insect infestation.

While such projects are initiated by the state and donors, *farmers* are the ones who bear the risks in such circumstances and lose out in terms of opportunity costs as well as investments of labour, inputs, etc.

Third, state institutions are increasingly seeking to involve both donors and corporate investors in public-private partnership (PPP) projects. The role of donors suggests that some activities are best described as philanthropy-public-private partnership (PPPP) projects. Such approaches represent a form of corporate social responsibility, or to put it another way, give an altruistic gloss to a profit-seeking endeavour. Sometimes donor or NGO activities actually seem designed to further increase productivity and hence profits, for example, when they are focussed on forms of training or capacity-building which increase the value of labour. The PPP model is increasingly common around the world, though often accompanied by intense debates over the balance of benefits accruing to the different parties involved. In authoritarian countries such as Rwanda, the possibility that citizen involvement in PPPs has been coerced adds an extra dimension to these debates. The theoretical advantage of private corporate involvement, after all, is based on liberal and neo-liberal assumptions around the supremacy of 'free market' processes (in terms of both legitimacy and efficiency). When it can be shown that markets are not in fact free, this argument becomes much less compelling.

Case Study: Jatropha Production in Rwanda

The GoR is committed to the use of biofuel technologies. Currently, Rwanda's main biodiesel facility (within the Scientific and Technological Research Institute, IRST) relies upon palm oil imported from neighbouring Democratic Republic of Congo (DRC). According to the Director General of IRST, Rwanda could be self-sufficient in biodiesel if it could develop jatropha plantations on about 225,000 ha. This would represent more than 14% of the total arable land in the country (author's calculations based on REMA, 2009 and MINAGRI, 2012). The biodiesel policy, which included this 225,000 ha target, has yet to be approved by the cabinet (Karinganire, 2012a). It is unclear at this time whether the delay in approving the policy is simply due to normal delays, a wait-and-see attitude of policy-makers regarding the potential success of jatropha and other oil-producing crops or internal disagreements. The GoR's energy policy states that because biofuel production tends to require subsidies and due to general land scarcity, "careful research [is] to be conducted into the potential of large-scale biofuel production" before large-scale production commences (Ministry of Infrastructure, 2009).

One plantation has already been developed. In 2009, the Government of Rwanda granted an Anglo-American consortium (U.S. firm Eco-Fuels Global and British firm Eco-Fuel Positive) a 30-year lease to 10,000 hectares of land near Akagera National Park in Eastern Province for the production of jatropha for biodiesel (Kagire 2009b). This represents a massive landholding in a country where the average household landholding, as mentioned above, is about three-quarters of a hectare. According to the media, the consortium has leased the land "for a rent of a few thousand dollars a year" (Mendick, 2012).According to media reports, the deal was personally facilitated by former U.K. premier Tony Blair. Mr. Blair is a personal advisor to President Paul Kagame, and one of Blair's non-profit organizations, Africa Governance Initiative (AGI), employs about ten people seconded to the Rwandan government. This involvement of a 'philanthropist' in a commercial deal becomes yet more interesting considering that the U.K. government, through its Department for International Development (DFID), was the main donor providing support for the national land registration exercise. Although there may be no direct link between Tony Blair's activities on the jatropha deal and DFID's agenda with regard to commercial development of newly-registered land in Rwanda, the deal would potentially benefit DFID by showing that the registration process has resulted in concrete, material benefits for both the U.K. and Rwandan economies.

According to the head of Eco-Fuels Global, the land in question is located in Rwinkwavuadministrative Sector, Kayonza district, near the Akagera National Park. The land is government-owned, and is "unused, uninhabited and consists of 37 noncontiguous parcels, mostly hilltops".[29] Hilltops are generally reserved for woodland in Rwanda, and are the property of the state; cultivation by individuals is not permitted.

The plantation has yet to produce any oil, according to the consortium personnel, because in order to establish high yields, it is wise to let the plant mature for 3-4 years before the first harvest.[30] It seems, therefore, too soon to make definitive statements regarding the future of the plantation model for biofuels in Rwanda.

However, other events in the jatropha sector reveal other models of commercial penetration of smallholder farming systems. Institutional changes have been made to facilitate public-private partnerships. IRST is in the midst of restructuring, becoming the National Industrial Research and Development Agency (NIRDA) in order to shed its social-science aspects and link its technical research more directly with processes of commercialisation. NIRDA has formed a joint public-private company called Rwanda Biodiesel Company Ltd (Karinganire, 2012b). Already, the IRST has entered into agreements with 122 cooperatives (with more than 12,000 members in total) for the production of oil for biodiesel. By May 2012 these cooperatives had planted almost a million oil-producing trees, according to IRST (Karinganire, 2012a).[31] ISRT has also entered into an agreement with Horizon Inc.(Anonymous, 2012b), a company associated with the ruling RPF party that is discussed in the case study below on pyrethrum. The restructuring of a state institution to allow for PPP projects is an example of the increasingly intertwined nature of state, donor and private activities.

In addition, IRST was reported to have "mobilised" families to grow jatropha in Ngororero district, where it has a research station. The Mayor of the District reportedly ordered that, "every family should grow at least 100 trees on his plots, mixed with other crops" (Karangwa, 2010). This declaration accords with the quantitative, target-oriented approach that the performance contracts (*imihigo*) represent.Residents were reportedly sceptical of the potentials for jatropha, having already been told to grow moringa in earlier years without any positive results (ibid).

5 Case Study: Pyrethrum production in Northern Province

In the pyrethrum sector, technical and financial support from donors has reinforced coercive practices and legitimized unequal structural conditions, in the name of increased integration with global commercial actors. The crop in question, pyrethrum, is a variety of chrysanthemum flower from which an insecticide is derived (after drying and processing). The insecticide is used in common household products, such as Raid and Baygon. Pyrethrum can only be grown at high altitudes on volcanic soil, and is therefore only produced by very few countries. The crop was introduced to Rwanda by Belgian commercial farmers in the 1930s. In 1963, the government of Rwanda excised part of the Volcanoes National Park, in the far north of the country (bordering the DRC), in order to put land under smallholder pyrethrum production. The government offered plots of 2 hectares per household, on the basis that they committed to grow pyrethrum on 40% of that land area. Households could grow other crops on the remaining 60%. If these conditions were not followed, the land could be confiscated.

[29] Philip Giovannini, email communication, July 14, 2010.
[30] Philip Giovannini, email communication, June 23, 2012.
[31] It is unclear from media sources whether these are all jatropha trees. Oil for biodiesel can also be harvested from soybean and moringa, amongst other crops.

In 1978, a parastatal Office of Pyrethrum in Rwanda, OPYRWA, was established to manage the industry, including the sole pyrethrum processing factory in the country. In 2000, the government privatized the parastatal, which became *Societe du Pyrethe au Rwanda* (SOPYRWA). The factory and commodity chain became poorly managed, and total exports fell from 30 tonnes in 2006 to just 4.6 tonnes in 2008.[32] In 2008, SOPYRWA was acquired by Horizon Inc. This company is described by one specialist as a 'party-statal', completely associated with the ruling RPF and staffed mainly by former military personnel (Gokgur, 2012).Although the nature of the SOPYRWA institution itself was altered, the land tenure regime in the pyrethrum zone did not change. SOPYRWA considered itself to be the owner of the land, and the pyrethrum farmers could lease the land on the condition that they grow pyrethrum.

Since around 2009, SOPYRWA directed pyrethrum farmers to organize themselves into producer cooperatives.[33] These cooperatives appear to fall short of the definitions of cooperatives generally used in the liberal literature on cooperatives and international development (International Co-operative Alliance, 2012), particularly in terms of the levels of voluntarism and the extent to which they are democratically governed. They charge membership fees (usually 5000 RWF, about US$8.50, which is a significant amount of money for a smallholder family).[34] Cooperatives sometimes force members to purchase artificial fertilizers, which must be applied only to pyrethrum plants. As the only processor of pyrethrum, SOPYRWA enjoys a monopoly and can set prices as it chooses. SOPYRWA now refuses to accept pyrethrum from individual farmers and will purchase only from the cooperatives, at a blanket price of 1035RWF/kg. Of this, 35 RWF is retained by the cooperatives for transport and organizational costs, meaning that farmers receive 1000 RWF/kg. This price is substantially better than the price paid before the 2008 buy-out by Horizon Inc. (the price was then around 800 RWF/kg, according to farmers), but Horizon has shifted the responsibility for drying the flowers to the individual farmers.[35]

5.1 The Mechanics of Coerced Production

The pyrethrum sector works through the daily policing of the fields of the population by employees of SOPYRWA known locally as 'delegates'. The delegates are local people, paid to ensure that 40% of each 2 ha parcel is planted with pyrethrum, and that farmers use SOPYRWA-approved cultivation techniques (e.g. planting seedlings a particular distance from each other, weeding frequently, using newer rather than old seed stock, etc.). If the delegates find that farmers are not following the directives of SOPYRWA, they report them to higher-level SOPYRWA staff who may direct that the fields in question are requisitioned for the season and cultivated by others, or that the farmers in question are fined (the money going to SOPYRWA).[36]Such temporary land confiscation is not unusual – several farmers interviewed cited neighbours in their village who had seen their land confiscated at some point in the last few years, and specific examples were provided of confiscation occurring six months prior to the fieldwork period.[37]

The economics of pyrethrum cultivation are extremely unfavourable to producers. In interviews, pyrethrum farmers indicated that on a per-hectare basis, pyrethrum provided only 10%-30% of the value of potato, the most economically viable crop in the area. These figures are supported by my

[32] It is likely that there are a number of reasons for this, such as poor quality seedstock, and diminished monitoring activities by the SOPYRWA 'delegates' who police the pyrethrum growing zone.
[33] Interview with SOPYRWA staff, Ruhengeri, DATE.
[34]Based on an average labourer wage of 600 RWF/day, this represents more than 8 days of work.
[35]Farmers can sometimes use drying hangers owned by the cooperatives, without charge. Correctly drying the flowers can be tricky, and if SOPYRWA's tests determine that the humidity of the dried flowers is above what they deem to be acceptable, the farmer receives less than 1000 RWF/kg.
[36] Interview with SOPYRWA delegate G. N., Musanze District, May 2011.
[37] Interview with land cell committee member, Kinigi Sector, October 2011.

calculations based on published literature, which suggests that pyrethrum provides only between 5% and 28% of the value of potatoes.[38] A 2011 U.S. Government audit of the project found, unsurprisingly, that "few farmers interviewed stated that their incomes had improved" as a result of increased pyrethrum production (Office of the Inspector General, 2011). Local households are extremely bitter about their obligation, under SOPYRWA's rules, to grow pyrethrum. Farmers say that pyrethrum is for "those with no other means to live" (e.g. no other source of livelihood) and that, "no-one wants to grow pyrethrum". Three young men were summoned to the sector offices to explain themselves after they called pyrethrum cultivation "slavery". They fled the region, fearing punishment.

5.2 Donor and Private Sector Intervention

In 2009, a collaborative project was launched involving SOPYRWA, the United States Agency for International Development (USAID), the multinational pharmaceutical corporation S.C. Johnston and the Norman Borlaug Institute for International Agriculture. This project (currently called the Pyramid project), which is modelled on USAID's work in the coffee sector in Rwanda, aims to "help increase incomes and the quality of life for thousands of Rwanda pyrethrum farmers, while boosting the sustainable supply of pyrethrum in East Africa" (Schattenberg, 2009). USAID invested $6 million over 5 years for the project between 2006 and 2011 (including other components such as chilli pepper production); the amount of money invested by SC Johnston has not been made public.[39] The project aims to provide farmers with information on health and family planning issues as well as better production techniques, and to intervene in the value chain, particularly in the areas of drying, transportation and storage. The delegates paid by SOPYRWA have been trained in cultivation techniques. It re-organized cooperatives, fragmenting large cooperatives into more numerous cooperatives with fewer members (Mukombozi, 2009).It is claimed that this reorganization will "empower farmers", because smaller cooperatives are more easily monitored by their membership (Kayisinga, undated).

SOPYRWA's 'delegates' received training as part of the Pyramid project activities, and this seems to have increased their capacity to enforce farmer obedience: an additional 52 ha came under pyrethrum cultivation in 2011, compared to 2010.Geographic information systems (GIS) technology has also been introduced to further tighten SOPYRWA control over the pyrethrum zone. The Pyramid Project has collected and digitized various data and has created maps detailing the locations of cooperative members' fields, the size of their landholdings, and similar information (Pyramid Project, 2011). This effort potentially represents a greater degree of accuracy in monitoring farmer activities, and hence an extension of existing coercive technologies.

The Musanze District *Imihigo* for 2010-11 planned an increase in the total area under pyrethrum cultivation from 1,512 ha (July 2010 total) to 1,542 ha (District of Musanze, 2011). The inclusion of corporate production targets in a public-sector performance contract illustrates the intimate ways in which the operations of the parastatal SOPYRWA are enmeshed with state land governance activities. State administrators are now, through the *imihigo*, responsible for meeting SOPYRWA's production targets.

[38] References for pyrethrum production include UNIDO, 1995; Hove, 2012; and interviews with SOPYRWA staff in July 2010. References for potato production and prices include IDFC, 2012; Tindiwensi, 2011; and interviews with farmers and agronomists in June and July 2011.

[39] SC Johnston staff responded to my request for this figure with a statement that, "we do not release that kind of information."

5.3 Coercion as Philanthropy

Supporters of the party-statal approach in Rwanda (such as Booth and Golooba-Mutebi2011)implicitly acknowledge some lack of transparency, but argue that because the GoRis generally committed to the public good, and has a strong anti-corruption stance, Horizon Inc.'s profits are likely to be ploughed back into the socio-economic development of the country. More than this, they put forward the view that Horizon Inc. was formed in order to pursue certain "strategic social objectives" and suggest that SOPYRWA has a positive impact not only on incomes but, implicitly, on the socio-political situation in Musanze and neighbouring districts.

My research suggests the opposite: forcing smallholder farmers in the SOPYRWA zone to grow pyrethrum suppresses their incomes and generates resentment against the ruling party. Rather than improving smallholder incomes, then, Horizon's main aim is likely to make a profit. Through donor-funded improvements to the efficiency of coercive mechanisms of production, and technical improvements (such as better seed-stock), SOPYRWA has achieved a 380% increase in export revenues from US$1.1 million in 2009 to US$4.3million in 2011.

The inequitable structural conditions under which pyrethrum is produced in northern Rwanda, while a legacy of the past, represent one possible future for smallholder production. The lease contracts that provide access to land on condition that pyrethrum is produced are an analogue of a broader pattern of state-controlled production which is being imposed in some places under the crop improvement programme, and through the use of 'performance contracts'. The involvement of donors such as USAID, in the name of "improving smallholder livelihoods", provides the pyrethrum production model with legitimacyand suggests that donors may support other forms of problematic state-imposed contract farming in the future.

6 Conclusion and discussion

The Government of Rwanda has launched an ambitious and well-financed agricultural reform, with the backing of major bilateral and multilateral donors and some multinational corporations. The reform is a response to structural constraints that made a business-as-usual approach untenable; it has also framed the reform as part of the global narrative of 'green revolution,' which is anchored in neoliberal arguments. Despite some initial technical problems in many areas, the reform has already led to massive increases in agricultural yields for government-approved crops. The reform has accordingly garnered considerable international praise.

International attention to the reform has yet to adequately consider the ways in which these productivity gains and legal-institutional changes may translate into highly differentiated socio-economic and socio-political effects at the local level. The GoR's efforts to intervene in commodity chains by 'linking' agribusiness interests to producer cooperatives could under some circumstances provide mutual benefits to producers and those higher up the value chain; but such agreements could (particularly as power relations are consolidated and processes of economic differentiation accelerate) also come to represent quasi-monopolies in which smallholders lose the capacity to negotiate. State micro-management of production undermines the narratives of market-responsiveness and entrepreneurship that underpin the GoR's strategies. It is doubtful that state bureaucracy can be responsive enough to changing market, agro-ecological and institutional conditions to manage commodity chains for government-approved crops. In addition, while the government is committed to fighting corruption, state-imposed contract farming and other interventionist policies represent numerous opportunities for illegal rent-seeking by local elites, which may prove difficult to prevent and may reduce smallholder profits. The policy of regional crop specialization, in tandem with a policy of 'encouraging' smallholders to join producer cooperatives that is often implemented coercively, restricts the ability of farmers to make their own decisions regarding crop choice, investment in inputs and marketing. This is certainly problematic from an ethical or human rights perspective – and 'development' organizations working in the agricultural sector should closely examine how their integration with government systems might compromise a rights-based approach to development. From a socio-political perspective, interviews with farmers indicate significant degrees of dissatisfaction and an emerging counter-government narrative of smallholders being reduced to "working for the state".

Even from a purely economic viewpoint, comparisons between Asian and African agricultural reform experiences should provide some cause for concern. Studies comparing the experiences of Southeast Asian and Sub-Saharan African countries have found that Southeast Asian countries, in contrast to African ones, have experienced economic growth and reductions on the levels of poverty when they have guaranteed "economic freedom for peasants and small entrepreneurs. In most cases, there has been little or no growth in the countries with development strategies based on accumulation by the state or economies that are state-dominated. *Smallholders need to be able to select their own crops and reap the profits*" (Henley and Van Donge, 2012; italics added).

Due to land scarcity and socio-political sensibilities over land, the GoR has found ways to facilitate agricultural investment while avoiding the direct transfer of land from the ownership of smallholders into corporate hands. In order to do this, the GoR has restricted the land use rights of smallholders while more accurately demarcating land claims. This has implications for broader debates on agricultural investment. For example, it suggests that the global 'land grab' is only one aspect of broader patterns of reconfiguration of control over land and labour in the Global South, and that attention should be paid to various forms of 'agricultural investment', not just acquisition of large areas of land. This analysis also raises questions regarding the potentials for land registration – often associated with improved tenure security – as a response to land grabbing. Critiques of the role of land registration in catalyzing 'development' tend to focus on effects that land registration has on land markets generally, land concentration more particularly and illegal acquisition of land by political and economic elites. However, events in Rwanda suggest that in authoritarian contexts, land registration may also pave the way for the loss of certain rights within the 'bundle of rights' to land. This does not preclude, of course, longer-term patterns of the loss of ownership rights, especially through market processes.

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LDPI Working Paper Series

A convergence of factors has been driving a revaluation of land by powerful economic and political actors. This is occurring across the world, but especially in the global South. As a result, we see unfolding worldwide a dramatic rise in the extent of cross-border, transnational corporation-driven and, in some cases, foreign government-driven, large-scale land deals. The phrase 'global land grab' has become a catch-all phrase to describe this explosion of (trans)national commercial land transactions revolving around the production and sale of food and biofuels, conservation and mining activities.

The Land Deal Politics Initiative launched in 2010 as an 'engaged research' initiative, taking the side of the rural poor, but based on solid evidence and detailed, field-based research. The LDPI promotes in-depth and systematic enquiry to inform deeper, meaningful and productive debates about the global trends and local manifestations. The LDPI aims for a broad framework encompassing the political economy, political ecology and political sociology of land deals centred on food, biofuels, minerals and conservation. Working within the broad analytical lenses of these three fields, the LDPI uses as a general framework the four key questions in agrarian political economy: (i) who owns what? (ii) who does what? (iii) who gets what? and (iv) what do they do with the surplus wealth created? Two additional key questions highlight political dynamics between groups and social classes: 'what do they do to each other?', and 'how do changes in politics get shaped by dynamic ecologies, and vice versa?' The LDPI network explores a range of big picture questions through detailed in-depth case studies in several sites globally, focusing on the politics of land deals.

Consolidating land, consolidating control: state-facilitated 'agricultural investment' through the 'Green Revolution' in Rwanda

Land-scarce Rwanda is an unlikely place in which to find 'land grabbing'. However, an ongoing legal, institutional and financial re-configuration of the agricultural sector in Rwanda facilitates increased penetration of rural smallholder farming systems by Rwandan and international capital which may include some large-scale 'land grabbing' by foreign corporations. More often, foreign agricultural investment in Rwanda is likely to take the form of involvement in contract farming arrangements with cooperatives. Such contracts are facilitated by the state, which when necessary uses coercive mechanisms as well as highly interventionist strategies (such as regional crop specialization policies and mandatory land use consolidation)to create an 'enabling environment' for agricultural investment. The Rwandan government has adapted neo-liberal tools, such as 'performance management contracts', through which it makes local public administrators accountable for agricultural 'development' targets, which are often explicitly linked to corporate interests. Philanthropic activities by international development agencies are also often intertwined with the activities of the state and foreign capital, so that a variety of actors and objectives are collaboratively changing the relations between land and labour, and exposing smallholder farmers to regional and global markets. Such processes suggest that the global 'land grab' is only one aspect of broader patterns of reconfiguration of control over land and labour in the Global South, and that critical attention should be paid to various modes of 'agricultural investment', not just acquisition of large areas of land.

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