




# MODELS OF AGRICULTURAL INVESTMENT



The Irish Association of Non-Governmental Development Organisations

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# CONTENTS

<b>1. Executive Summary</b>	<b>2</b>
<b>2. Introduction</b>	<b>5</b>
<b>3. Models of Agricultural Investment</b>	<b>8</b>
3.1 Motivation	8
3.2 Agricultural Investment Models: Critical Evaluation	11
3.2.1 Contract Farming	13
3.2.2 Management Contracts	15
3.2.3 Tenant Farming and Sharecropping	16
3.2.4 Joint Ventures	16
3.2.5 Farmer Owned Business	18
3.2.6 Upstream and Downstream Business Links	21
3.2.7 Large-Scale Agriculture	22
3.2.8 Government-Owned Agri-Business	23
3.3 Effectiveness of Other Agricultural Investments	24
3.4 Large-Scale Land Acquisitions	25
3.5 Summary of Critical Assessment	26
<b>4. Current Policy Environment</b>	<b>27</b>
4.1 Multilateral Donors	27
4.1.1 Large-Scale Land Investment	29
4.1.2 Agricultural Research and Development	30
4.2 Ireland's Policy Environment	31
4.2.1 Ireland: Specific Policies Towards Appropriate Agricultural Investment	32
4.3 Interviews and Experience	34
4.3.1 Interview Snapshot: Irish Aid, Paula Kenny	34
4.3.2 Interview Snapshot: Department of Agriculture, Food and the Marine, Colm Hayes	35
4.3.3 Interview Snapshot: The African Agri-Food Development Fund, Colm Hayes	36
4.3.4 Interview Snapshot: Trocaire, Michael O'Brien & Tom Crowley	37
<b>5. Emerging Issues: The Way Forward</b>	<b>39</b>
5.1 Recommendations	41
<b>References</b>	<b>42</b>

# 1. EXECUTIVE SUMMARY

The importance of food security globally and the implications of inadequate nutrition in developing countries in particular, have been highlighted by the following: challenges in meeting the first Millennium Development Goal (MDG) (halving the number of people suffering from hunger by 2015); well documented sharp increases in global food prices in recent years; climate change and its associated effects on energy and food production; and the global economic crisis.

It is appropriate then that after decades of decline in developing countries, agricultural investment is once again a key priority of both developing country governments and developed countries, including donor agencies.

This paper describes agricultural investment models that relate to smallholder farmer engagement with the production of food, cash crops and livestock. The paper is intended to contribute to the wider policy debate on nutrition and food security in Ireland. Specifically, the paper will be used to engage strategically with Irish Aid. It may also be useful as an advocacy tool for the various development stakeholders in Ireland who engage with multilateral donor organisations in 2012 and 2013, e.g., the Committee on Food Security (CFS). Finally the paper is a useful way to showcase the myriad ways that Irish donor agencies already engage with the policy and practice around sustainable smallholder agricultural investment across many countries.

The focus of the paper is on models of agricultural investment, i.e. how farmers engage with the production of agricultural output. However, associated investments in research around effective agricultural production including farming technologies, supply chain development, the importance of physical and institutional infrastructure, the gender dimension of agriculture (especially in Africa) and the effectiveness of various financial and human capital agricultural investments, will also be touched on.

This paper describes agricultural investment models that relate to smallholder farmer engagement with the production of food, cash crops and livestock. The paper is intended to contribute to the wider policy debate on nutrition and food security in Ireland.



This paper contextualises the need for a focus on agricultural investment models and motivates the need for a deep understanding of natural resource rights and the wider institutional and governance environments facing smallholder farmers, in particular women. It then critically evaluates several models of agricultural investment that are sensitive to smallholders as well as a brief examination of large-scale land investments which have recently received much attention from policy makers and academics. Finally, it describes the current policy environment informing agricultural investment in developing countries, both internationally and from an Irish perspective. Several case-studies are used to illustrate the investment models described while the responses to interviews carried out to complement this research are summarized to highlight the nature of the policy environment in Ireland and the challenges and opportunities it currently faces.

The agricultural investment models discussed include: Contract Farming, Management Contracts, Tenant Farming and Sharecropping, Joint Ventures, Farmer Owned Businesses, Upstream and Downstream Business Linkages, Large-Scale Agriculture and Government-Owned Agri-Business. Reviewing these agricultural investment models, and known examples of their implementation to date, quickly shows that no single model emerges as the optimal choice for all smallholders in all situations.

The international policy environment informing agricultural investment sees this area as a key aspect of a broader agenda. That is, the achievement of food and nutrition security and as part of a sustainable economic growth strategy for developing countries, where large sections of society rely on agriculture for their livelihood needs and face an increasingly unstable market and climate environment. The paper also highlights some of the challenges and current debates in the international policy community, including agreement on the optimal model for agricultural research and the prioritisation (or lack thereof) of the sustainable management of natural resources. This suggests that ongoing advocacy in this area is much needed and that evidence based evaluations of existing successful policy interventions are a powerful way to inform these debates.

Finally, Ireland's engagement with agricultural investment in developing countries is discussed along with key recommendations emerging from the reviewed literature and policy debates. This is an area of policy priority for the country, and is a key feature of Ireland's strong engagement in the fight against global hunger. However, areas of policy incoherence remain. For example, Ireland's per capita carbon emissions and aspects of its trade policies are at odds with its commitment to see real agricultural gains achieved in developing countries. Similarly, although broad commitment to agricultural investment has probably been established within the government agencies directly involved in the implementation of the country's development objectives and the country's development NGOs there are remaining areas of ambiguity, contention or disagreement:

- How the country engages with agricultural research and development needs additional critical examination and an orientation towards the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) model.
- A stronger focus on environmental sustainability as part of the agricultural research agenda is required to ensure maximum effectiveness and coherence of the country's agricultural investment agenda.
- Evidence-based assessment of policies and practices undertaken by Irish NGOs and supported by the Irish government must be established in order to effectively evaluate the impact of these programmes in developing countries.
- Clarity is required as to how Irish stakeholders propose to support the implementation of the "Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security".
- Questions can also be posed as to the African Agri-Food Development Fund's (AADF) process. Who should be involved in identification, planning, implementation and monitoring and evaluation of initiatives? How do the outcomes of such initiatives align with Ireland's priority development objectives?

Addressing these issues will result in a stronger overall Irish position in the area of advocacy, policy and programming as relevant for agricultural investment in developing countries, especially those in Africa.

The first Millennium Development Goal: halving the number of people suffering from hunger by 2015

## 2. INTRODUCTION

The importance of food security globally and the implications of inadequate nutrition in developing countries in particular have been highlighted by the following: challenges in meeting the first Millennium Development Goal (MDG) (halving the number of people suffering from hunger by 2015); well documented sharp increases in global food prices in recent years; climate change and its associated effects on energy and food production; and the global economic crisis (Hunger Task Force, 2008).

It is appropriate then that after decades of decline in developing countries, agricultural investment is once again a key priority of both developing country governments and developed countries, including donor agencies. For example, the Maputo Declaration (Assembly of the African Union, 2003), the Comprehensive Africa Agriculture Development Programme (CAADP) framework and IFAD (2012).<sup>1</sup>

### RENEWED AGRICULTURAL INVESTMENT IS THEREFORE INCREASINGLY ACCEPTED AS A KEY COMPONENT OF VARIOUSLY:

- Achieving the MDG relating to hunger,
- Alleviating food price increases,
- Countering the negative effects of climate change on developing country farmers,
- Halting decades of declining agricultural productivity in Africa, even as
- A solution to wider agricultural challenges such as crop and livestock production in areas of high/growing population densities, resource management in many agro-ecologically marginal areas and large-scale land acquisitions.

<sup>1</sup> This document examines the challenges facing sustainable smallholder agriculture whilst recognising the importance of smallholders in food production and natural resource management globally.

However, the underlying assumption that this renewed investment in agriculture will be effective has been less well interrogated. 'Agricultural investment' captures a broad range of potential development interventions, including but not limited to:

- Research and development leading to technical advances in agricultural practices,
- Physical infrastructure improvements,
- Human capital development,
- Financial investment in land improvements and associated land ownership structures,
- Local and national government capacity building to improve governance of natural resources, and
- Development of agricultural supply chains and market mechanisms.

The effects of each of these on improving the food security, nutrition and livelihoods of the world's poor cannot be taken for granted, but depends intrinsically on how each investment is implemented, given the particular challenge the investment hopes to overcome. Thus, ongoing monitoring and evaluation are crucial to enable such investments to achieve lasting and sustainable positive effects on identified development outcomes of the affected farming families and communities.

Similarly, the wider policy context informing agricultural investment has a significant impact on the availability of funds for potential investment projects and also for the nature of the projects themselves. Agricultural investment has recently become a policy priority both from a donor and developing country government perspective. Investigating how agriculture has achieved this newly found priority status in recent years as well as examining how to further ensure that this priority status is maintained is an important aspect of ensuring effective investment. This, in turn, affects the delivery of sustainable agricultural improvements in order to achieve the ultimate goal of securing access to food and livelihoods for smallholder farmers and those who rely on the food they produce.

This paper describes agricultural investment models that relate to smallholder<sup>2</sup> farmer engagement with the production of food, cash crops and livestock. The paper is intended to contribute to the wider policy debate on nutrition and food security in Ireland. Specifically, the paper will be used to engage strategically with Irish Aid. It may also be useful as an advocacy tool for the various development stakeholders in Ireland who engage with multilateral donor organisations in 2012 and 2013, e.g., the Committee on Food Security (CFS). Finally the paper is a useful way to showcase the myriad ways that Irish donor agencies already engage with the policy and practice around sustainable smallholder agricultural investment across many countries.

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<sup>2</sup> Smallholders are defined in this paper as inclusive of all small scale food producers as well as those who work on cash crop agri-industrial enterprises.



The focus of the paper is on models of agricultural investment, i.e. how farmers engage with the production of agricultural output. However, associated investments in research around effective agricultural production including farming technologies, supply chain development, the importance of physical and institutional infrastructure, the gender dimension of agriculture (especially in Africa) and the effectiveness of various financial and human capital agricultural investments, will also be touched on. Although land investments specifically have received the most attention in the surveyed literature, much of the discussion is also relevant for the management of other natural resources, including forests and water. Additionally it is crucial to note that, while the mode of agricultural production is important, it is also context specific and determined in large part by the institutional architecture facing each individual family farm.<sup>3</sup> This will become increasingly clear through the examination of case-studies describing specific investment models in Irish Aid priority countries.

The models are examined within a framework that first focuses on their appropriateness for small holder farmers in Africa. Secondly, a critical assessment of the models attempts to identify who should and who does support these initiatives. Thirdly, an attempt is made to establish how these models impact on farmers' disposable income, agricultural output, food insecurity and poverty. The evaluations of these models thus establish the challenges faced by each in its implementation and in achieving its maximum potential impact. Where possible examples from Irish Aid countries are used to illustrate both the opportunities and threats that agricultural investment models pose to smallholder farmers in sub-Saharan Africa.

Having critically examined several agricultural investment models, the paper goes on to establish how such models of investment fit within the evolving development strategy of donors in general and Ireland in particular. Establishing Ireland's engagement to date with agricultural investment in developing countries, in its various forms, allows an examination of: the role that Ireland can take in order to support and strengthen broad agricultural investment frameworks, Ireland's effectiveness in reflecting smallholder interests within the EU and wider donor community, and whether there is potential for Ireland to increase its engagement at both policy and practice levels within an environment of domestic policy coherence.

The structure of the paper is as follows. Section 3 critically assesses several investment models, establishing their potential and realised effects on smallholder outcomes as well as the importance of the institutional context informing each model's implementation. Case studies are used to illustrate the models in Irish Aid partner countries. Section 4 explores the policy framework that has resulted in a renewed interest in scaling up agricultural investment in general and Ireland's engagement with this broad policy priority in particular. Section 5 summarizes the paper's findings and outlines identified policy and practice challenges with a focus on Ireland's role.

<sup>3</sup> This challenges the ability to scale models of agricultural investment where these are proven only at the micro level. For example, much of the literature focuses on the importance of property rights for agricultural investment, in practice many of these lessons do not transfer across national and/or cultural boundaries.

## 3. MODELS OF AGRICULTURAL INVESTMENT

### 3.1 MOTIVATION

Agricultural productivity growth underpinned early economic development in now developed or emerging market countries including Japan, Western Europe, the US, China, Korea and Taiwan (Cleaver, 2012).

There is now a large body of evidence showing that agricultural growth has a high poverty reduction payoff and that it leads to disproportionate income increases for the poorest in poor countries. Further, agricultural investment has been shown to yield higher income gains for the poor than non-agricultural investment.

The pro-poor payoffs from agricultural growth are therefore well documented, as described in Cleaver (2012). Much is also known about how to stimulate agricultural production in order to generate these effects. These include first, measures to improve farmer access to input and output markets. Specifically, by the creation of an enabling environment for private investment, often through specific public sector investments, e.g. provision of rural infrastructure, education, regulation and appropriate agricultural policies, including pro-women policies. Secondly, smallholder farmers must be recognised as having particular informational, infrastructure and support needs. Thirdly, while agriculture requires more funding in order to generate improved income and developmental outcomes, there are some types of investment which are not pro-agricultural growth including fertilizer subsidies, export restrictions and severe farm price controls.<sup>4</sup> Additionally, scaling-up is desirable within an enabling agricultural environment.

Investment in agriculture can therefore be motivated from a policy perspective in developing countries as a means of increasing farm output and productivity in order to address food and nutrition insecurity, raise incomes in farming households as well as enhancing the management of scarce natural resources (land, water, forests). Agricultural investment comes in various forms, e.g. physical, human and institutional, see Table 1.



There is now a large body of evidence showing that agricultural growth has a high poverty reduction payoff and that it leads to disproportionate income increases for the poorest in poor countries.

<sup>4</sup> It goes without saying that governance failures and civil instability are not pro-agriculture or pro-poor.

Agricultural investment has been shown to yield higher income gains for the poor than non-agricultural investment.

**TABLE 1: TYPES OF AGRICULTURAL INVESTMENT**

Investment Type	Details	Objectives
Capital	Physical	On and off farm infrastructure Land improvements
	Human	Skills acquisition
Research and Development	Improved farming techniques	Seed development Input optimisation Pest and disease control
Institutional	Enabling governance environments Supply chain enhancement Accessible input and output markets	

Additionally, investment can be public and/or private in nature. In practice whether investment is provided by governments via domestic revenue sources or donors (in the case of developing countries) or by the farmers themselves (large agri-businesses or smallholders) depends, to a large extent, on the investment behaviour by these actors. That is, the incentives and access to finance each faces and the returns to their investments (rents) each is able to capture.

Understanding investment behaviour is thus important in establishing the link between government and private investment decisions, e.g. the impact of output and wages on investment and the resulting productivity effect of investment decisions (Gandhi, 1990). Unsurprisingly then, there is a large literature on agricultural investment which investigates the investment incentives and resulting behaviour by both government and private actors. One strand of this literature has focused on the effects of land rights, both tenure and usage, on agricultural investment decisions, and how resulting agricultural rents are distributed. For example, Sjaastad and Bromley (1997) note that fully understanding how tenure and usage rights occur and interact is crucial to determining how they affect public and private investment decisions and how interventions to alter ownership characteristics (e.g. formal land titling) may affect investment behaviour going forward. In developing countries, e.g. land use rights often confer tenure rights so that agricultural investment may play a dual role both in the establishment of land tenure rights (where investment establishes usage) and in achieving productivity gains (land improvements). Where indigenous land rights are well understood by local communities (with well defined inheritance structures and land transfer

protocols) formal titling or establishment of formal land markets may theoretically result in disruptions to investment channels as land rights are disrupted. Similarly, it can be envisaged that underinvestment in land, in cases where formal land rights are well understood and established, may be due to the unavailability of finance rather than access to finance being frustrated by opaque land rights. Finally, well functioning local land rights structures may be disrupted where these are not formally defined outside the indigenous community and where external actors compete with local communities for agricultural resources. For example, in large scale land acquisitions by national or extra-national agencies.

Thus, this literature demonstrates the importance of widely accepted land rights as an important component of achieving increased and effective agricultural investment (here defined as private investment). This is often facilitated by private credit markets and resulting in land improvements, new technology adoption and skills enhancements. The literature also establishes however, that formal titling is not always required to achieve land rights arrangements that facilitate access to formal credit channels. For example, Petracco and Pender (2009, Uganda) find that tenure itself, rather than formal titling, affects farmers' abilities to access formal credit markets, which become increasingly important as demand grows for agricultural modernisation to meet domestic and household food needs. However, formal titling can benefit female headed households in traditionally male-headed communities, den Broeck et al. (2007, Vietnam) and Holden et al. (2009, Ethiopia). Further, Deininger and Chamorro (2002, Nicaragua) and Byamugisha (1999, Thailand) emphasise that while formalising land tenure through titling may yield increased propensity to invest in agriculture, the legal validity and quality of the land registrations are of paramount importance, thus speaking to the quality of land-rights institutions in facilitating increased agricultural investment. Finally, Foltz et al. (2000, Nicaragua) demonstrate that not only do recognised land tenure rights result in increased investment and agricultural credit availability, but where recognised land rights are absent, off-farm incomes increase, whilst where recognised land rights exist, on-farm income increases, as do education outcomes.

Wider issues around the sustainable management of natural resources can also be framed with regards to recognised ownership claims (Deacon and Mueller, 2004). That is, where rule of law is weak ownership claims on natural resources tend to be ambiguous or, in the case of unstable political systems, may become insecure. Ambiguous or weakening ownership claims on natural resources can be shown to reduce the payoffs from natural resource conservation or even result in officials capturing rents from these resources and thus diluting the benefits of these resources to local communities.

The importance of stable political systems in general, and appropriate governance structures around agricultural investment and natural resource management in particular, has been shown to be of paramount importance in achieving effective development outcomes for farmers and other users of natural resources in developing countries.

## 3.2 AGRICULTURAL INVESTMENT MODELS: CRITICAL EVALUATION

Agricultural investment that generates positive outcomes can be understood to be multi-faceted and require a deep understanding of the governance structures and land rights facing the agriculture sector in developing countries. This is especially true where agricultural investment attempts to achieve sustainable natural resource management for the those dependent on farming for their nutrition and livelihoods needs. Given these complexities, and with a focus on agricultural investment models that provide opportunities for smallholder farmers in particular, several models are critically assessed below.<sup>5</sup>

**These forms of agricultural investment are chosen as a result of a demand for models that:**

- Support family farming,
- Provide demonstrable benefits to local communities,
- Result in equitable forms of agricultural investment, and
- Generate economic, social and environmental outcomes that are beneficial to smallholders and their wider communities on a sustainable basis.

These models describe relationships between smallholders and agri-business and may be seen as a way to generate agricultural productivity gains without recourse to large-scale land acquisitions.<sup>6</sup>

It is noted that the models (see Table 2) described and critiqued below relate predominantly to land investments. However, much of the discussion and the lessons drawn are relevant for investment models appropriate for other natural resources (forests, water) and for settled as well as nomadic farmers.

Indeed the 2012 Global Hunger Index highlights the importance of examining the stresses on all natural resources in establishing solutions to chronic hunger and nutrition challenges facing the world's poorest people (Welt Hunger Hilfe et al., 2012). This acknowledges that hunger and nutrition challenges are inextricably linked with increased competition for natural resources. Sustainable management and investment of all types of natural resources and appropriate dialogue with all those who utilise these resources will be crucial in addressing the pressures on these resources and the resulting hunger and nutrition challenges that these pressures cause in developing countries.

<sup>5</sup> These assessments are based closely on work by Cotula and Vermeulen (2010) and Cotula and Leonard (2010), themselves the product of detailed desk research, case studies and drawing on dozens of secondary literature sources.

<sup>6</sup> Of course engagement with agri-business is not necessarily a prerequisite for small-holder agricultural success however, the focus here is on models that envisage some engagement with agri-business, either directly or indirectly, as a means to generating positive on-farm income and productivity effects.

**TABLE 2: AGRICULTURAL INVESTMENT MODELS AND CASE-STUDIES**

<b>Investment Models</b>	<b>Case-Studies</b>
Contract Farming Management Contracts Tenant Farming and Sharecropping	Mwean rice irrigation scheme, Kenya
Joint Ventures	Joint venture ecotourism business, Mozambique
Farmer Owned Businesses	Kieni Dairy Products Limited (KDPL), Kenya How NASFAM supports smallholders, Malawi
Upstream and Downstream Business Linkages	Enabling governance environments Supply chain enhancement Accessible input and output markets
Large-Scale Agriculture	A hybrid business model: The case of sugarcane producers, Tanzania
Government-Owned Agri-Business	

While each model must meet minimum economic viability criteria prior to implementation, Cotula and Vermeulen (2010) advocate evaluating agricultural investment models additionally using an appealing 'value share' framework. This attempts to establish the way in which the model may share value between the different stake-holders, i.e. between farmers (broadly defined), land owners and agri-business owners. Four criteria can be thought of as defining how value is shared between these actors. Firstly, ownership of the business and key assets including natural resources (land, water, forests) and processing facilities. Secondly, the ability to influence decision making, including the mechanisms that are in place to deal with situations where actors feel decision making has not been carried out in accordance with pre-agreed structures. Thirdly, how risk is allocated amongst actors.

Finally, how outcomes are shared, i.e. costs and profits, including price setting and credit arrangements. These four aspects of the value of any business venture are obviously interlinked, e.g. increased ownership may go hand-in-hand with increased risk exposure. In addition, the context (institutional, political, social, environmental) within which each investment model is undertaken will have real implications for the practical viability of the model and its implementation.

### 3.2.1 CONTRACT FARMING

Also known as outgrower schemes, this model describes supply arrangements agreed before the start of the growing season between farmers and agricultural-output buyers. Farmers agree to provide a certain quality and quantity of output, perhaps by an agreed date. In exchange, the buyers provide inputs including credit, seeds, fertilizer and technical assistance (to be charged against the final purchase price) and commit to buying the farmers' output, often at an agreed price.

Contract farming was initiated by the vegetable canning industry in North America and Western Europe in the 1930s and 1940s and spread to developing countries after decolonisation in response to the decline of the plantation model of agricultural production. This saw a trend towards separation of growers, processors and final-product vendors of agricultural produce. Structural adjustment policies in developing countries encouraged contract farming as a way to revive the agricultural sector and government owned enterprises in many developing countries encouraged the spread of contract farming, e.g. in tea and coffee sectors in Kenya, and cotton growing in Zimbabwe.

#### **Contract farming can take many forms including:**

- Highly centralised models where one agribusiness company has tight control over quality and quantity and buys produce from many smallholders;
- Estate models where the agribusiness is directly involved in production;
- Multipartite models where farmers sign contracts to establish a joint venture between the agribusiness and a body representing local farmers;
- Informal models where purchase agreements are more informal and seasonal and the agribusiness supplies only limited inputs, and
- Intermediary arrangements where the agribusiness

and farmer interact through a third party who signs contracts with many smallholders and the agribusiness.

Contract farming is most often seen in production of labour-intensive, perishable crops where the farmers have few options for the sale of their output, other than the agribusiness, rather than crops that benefit from scale economies.

Ensuring that an enabling legal environment exists is important in safeguarding the rights of smallholders engaged in contracting arrangements as well as guaranteeing security of the business environment for the agribusiness partner. Governments and development agencies can assist in building capacity in local farmer organisations including providing model contracts.

Contract farming can then be seen as preferable to plantation farming for both agribusiness and smallholders. It results in stable supply of crops for the agribusiness without the need to invest in land directly. It may result in higher productivity than is possible on large-scale farms (especially for labour-intensive crops). Farmers can benefit from economies of scale in input provision by accessing these through the agribusiness and might also gain access otherwise unavailable credit and production technologies. Contracts can generate income stability as well as facilitating access to distant, lucrative markets.

However, these benefits depend on the specific context of each contract, especially the relative negotiating power of each party. Where contracts are not easily enforced, or the agribusiness operates as a near monopolist, risks can occur on both sides leading to suboptimal outcomes. For example, agribusiness can face high transactions costs or supply risks where farmers can easily sell their output to alternate buyers. Farmers can find it difficult to enforce payment on delivery of output or ensure good quality inputs are provided; they may also risk becoming locked into debt especially where credit is advanced for long-term investments, e.g. tree crops.



CASE  
STUDY

## MWEAN RICE IRRIGATION SCHEME, KENYA

“The Mwean Rice Irrigation Scheme is the largest rice irrigation scheme in Kenya, involving about 3,400 farmers. The scheme was established in 1955, and is managed since 1966 by a parastatal under the control of the ministry for agriculture – the National Irrigation Board (NIB). Local farmers are registered tenants on public land, and are expected to abide by the rules set by the NIB. The NIB has annual contracts with farmers concerning the provision of services and inputs (such as seeds and fertilisers), which are provided on credit. Water is also provided on credit. Debt repayment is ensured by deductions from the purchase price at harvest. No financial credit is provided. Rice milling is undertaken by the Mwean Rice Mill, the joint venture between the NIB (55%) and the Mwea Farmers Multipurpose Cooperative Society Ltd (45%), a cooperative established by local farmers. The cooperative also plays an important role in facilitating farmers’ access to financial credit.

Farmers feel they have no say in decisions concerning prices for inputs, services and water use, and purchase prices. Although they own a 45% equity stake in the milling plant, this does not translate into significant leverage vis-a-vis the NIB. Also, long delays exist between crop delivery and payment of purchase prices. Since price and marketing controls were removed in 1993, a large number of rice mills have started to operate in the immediate

surroundings of the irrigation scheme. This has offered new options to the farmers, who can now divert rice paddy to the private mills, but also raised questions as to the regularity of supplies to the NIB.”

(Cotula and Vermeulen, 2010, p.44)

Contract farming may result in additional off-farm income opportunities, e.g. for women in processing plants. However, the success of contract farming within particular farming communities depends to a large extent on the incentives facing agribusinesses and local farmers with regard to which farmers are offered these contracts and which farmers take up the opportunity to become contracted. For example, when other alternatives exist risk averse farmers may gravitate towards the apparent income security of contract farming with less risk adverse farmers opting for more attractive options.

Although contracting has seen both successful and unsuccessful outcomes for farmers in developing countries, it does have the potential, when implemented in an optimal institutional environment, to benefit both agribusinesses and smallholders through yielding higher quality, safer agricultural output with lower production and marketing costs whilst overcoming input and output market imperfections.



### 3.2.2 MANAGEMENT CONTRACTS

These refer to farmers or management companies producing agricultural output on land they do not own. Profit sharing between the owner and manager incentivises the manager who farms on behalf of the ultimate owner.

For smallholders management contracts can take various forms, where the management company runs the farms on behalf of the smallholders but does not acquire the land directly.

**These can occur as:**

- Straight-forward leases, where the company runs the farm and pays rental fees to the smallholder;
- Profit-sharing arrangements;
- Agricultural output-sharing, where each party is responsible for marketing etc. their share; or
- Combinations of these alternatives.

The management company may bring scale advantages in input provision, processing and marketing.

These arrangements are prevalent in countries with high agricultural potential where ownership and management of land have become separated. For example, in South Africa, an arrangement between a South African timber company and a community of forest owners sees the timber company growing timber and conducting commercial forestry activities on community land in exchange for periodically reviewed fee payments.

An enabling legal framework is preferable to ensure equitable outcomes from these arrangements. NGOs and government agencies may be required to support local community capacity in the negotiation and evaluation of the contracts, especially where local land owners have limited capacity for contract negotiation and enforcement.

These may result in positive outcomes for local communities without them having to forgo their land-rights entirely, especially where (aspects of) these contracts can be renegotiated periodically. Management contracts may also result in access to new energy or advanced farming techniques that would be otherwise impossible for local communities to achieve. As an improvement on flat-rate leases, these types of arrangements show potential for scalability.

### 3.2.3 TENANT FARMING AND SHARECROPPING

These are variations of the management contracts described above. With regard to smallholder farming these arrangements are the mirror image of the management contracts described above, i.e. smallholders' farming land owned by larger agri-businesses. Tenant farming usually entails a fixed fee or rent paid by the farmer to the land owner. Sharecropping sees the farmer and landowner pre-agree to split the output produced or its proceeds.

Sharecropping has received a large degree of criticism for being exploitative and less efficient than cash rental contracts. However, where working capital and credit access are limited, sharecropping is a favourable option for smallholders and land owners as a way to minimise production risks.

Tenant farming is widespread in Europe, North America and Asia as an arrangement to manage high-value, multi-use farmland, e.g. of forestry resources in Canada. In developing countries these arrangements may be preferred where agricultural production requires costly investments, e.g. where the inputting of irrigation infrastructure is undertaken by the land-owner local communities carry out the farming of the land and the output is shared with the land-owners.

Although restrictive regulation of land rental markets have been in place in many developing countries to avoid exploitation of smallholders, tenancy and sharecropping arrangements are becoming recognised as attractive ways for landless groups to access land. Whilst the importance of clearly recognised land rights and the avoidance of the exploitation must be upheld for existing farmers, these arrangements may become increasingly important in areas of growing population densities.

In practice, sharecropping varies greatly across national and cultural boundaries. This can include the land owner providing food, seeds and other inputs to the share croppers, providing a de facto safety net for the landless (North Sudan). However, challenges arise where the land owner himself is poor and cannot provide this support, in which case the land may become disused.

Therefore, these arrangements offer both a potential solution for some landless groups in providing a means for them to access land directly, and an important way to maximise the intensive management of land and resources. However, these arrangements do not solve all the challenges associated with large-scale land ownership and tend to result in weaker negotiating positions for tenant farmers as opposed to contract farmers. Perhaps the strongest case for these types of arrangements relate to forest management in developing countries.

### 3.2.4 JOINT VENTURES

These models describe arrangements where both risks and profits are shared between farmers and agri-businesses, e.g. a processing plant, with decision-making power shared according to the relative equity share of each party. Partners retain individual legal status. The arrangements may be formal (creation of a separate legal entity to represent the venture that ensures limited liability of the partners) or informal, more flexible arrangements. These arrangements are

intrinsically attractive as a means to engage agri-business and smallholders as smallholders are full business partners granting them both profit sharing and decision-making rights in the endeavour. However, as always, the context within which each venture is established determines its eventual success and the challenges that implementation may throw up.

Agricultural joint-ventures are wide-spread in both developed and developing countries. Some have achieved significant profile and success, e.g. the Divine Chocolate Company, a joint venture between a Ghanaian cocoa farming group, a UK fair-trade company, and a microfinance institution (Cotula and Vermeulen, 2010). Land-based ventures, where smallholders' asset contribution is their land require specific national legal architecture, but do exist successfully in many countries. For example, in South Africa, as part of the government's land-reform agenda, joint ventures occur between land reform beneficiaries and agri-business. These models aim to maximise the economic benefits to land-reform beneficiaries by linking them with established agricultural farm-management companies. However, many of these schemes have been criticised for maintaining the status quo, including not moving away from commercial farming practices and not facilitating smallholder autonomy, or skill transfers etc.

In practice, the role of governments in joint ventures is paramount. Not only do they provide the basic policy framework for these arrangements, they are also often direct joint-equity partners, providers of business advice, capacity building, underwriters of smallholder business risks, etc. Development agencies can also play important supportive roles in joint ventures, including capacity building, provision of substantial credit access, and marketing assistance.

Thus, although these arrangements are potentially lucrative ways for smallholders to achieve commercial success within an intrinsically equitable framework, successful implementation is challenging, as these arrangements can be complex and rely on strong business capacity of the smallholders themselves.

These arrangements offer real equality of negotiating power between smallholders and agribusiness. Clear terms of engagements within clear business and legal frameworks reduce political and legal risks, increasing supplier incentives and assisting with branding. However, joint ventures are not entirely insulated from potential exploitation from agri-business. Both down-side and up-side risk exposure to smallholders is high, empowerment can be de facto low, regardless of the intentions of both parties. Initial success can lead to dissipation of equity shares by smallholders where additional costly capital requirements see new partners introduced to the scheme. These arrangements therefore require substantial capacity support for small holders; fully assessed down-side risks to be insurable, perhaps through government underwriting; livelihood benefits must be immediate, even with long-term crops, this can be enhanced by, e.g. facilitating subsistence farming alongside commercial agricultural endeavours; and all contributions must be accounted for and valued (e.g. natural resource rights, local knowledge of smallholders etc.).

## CASE STUDY

## JOINT VENTURE ECOTOURISM BUSINESS, MOZAMBIQUE

“Ndzou Camp Limitada is a joint venture company set up by Associacao Kubatana Moribane and Eco-MICAIA Limited. The company was established in 2009 in order to develop an ecotourism facility in Moribane Forest, which is part of the Chimanimani Transfrontier Conservation Area (TFCA) in the Manica Province of Mozambique.

As with impact, it is early to draw many lessons from Ndzou Camp. However, one obvious lesson is that any attempt to build an inclusive business in which there is substantial community or producer equity must be backed by extensive initial consultation and continuing capacity building. In the case of Ndzou Camp, MICAIA has been working with the community for nearly two years before the Camp opens.

In the tourism sector in Mozambique and elsewhere there are examples of attempts to build inclusive business models that have struggled because of the challenge of finding willing or suitable private partners. After months and perhaps years of support on an entirely subsidised basis from an NGO, the transition for a community into a business mentality cannot be easy. Similarly, a purely private operator can find it difficult to manage the multiple expectations in the community and amongst other stakeholders.” (Cotula and Leonard, 2010, p.50)

With appropriate governance structures, including adequate smallholder capacity-building and joint-venture oversight, these arrangements may provide real alternatives to the large-scale land purchases that typically exclude smallholders almost entirely.

## 3.2.5 FARMER OWNED BUSINESS

Here farmers enter into formal business structures to pool their assets in order to enter an upstream business, e.g. crop processing; or to gain access to finance; or to limit the liability of individual members. These businesses are often owned by co-operatives. An informal version of this would incorporate cropping zones, where crop production is concentrated in certain areas generating economies of scale that attract suppliers, buyers and processors, e.g. as in Rwanda.

**These arrangements can take various forms, including:**

- Associations which represent farmers but are not usually linked to profit-making enterprises;
- Trusts that hold and protect assets for named beneficiaries; and

- Enterprises including co-operatives, partnerships, community enterprises and farmer-owned companies.

For example, where co-operatives may be criticised for their slow decision-making due to their highly democratic nature, farmer-owned companies may enable co-operatives to manage collective assets more efficiently with limited liability for members, albeit with a loss of democratic process.

Co-operatives and farmer-owned companies are widespread globally, and are as varied as the motivations for establishing them. However, common types include marketing agencies, processing companies, distribution agencies, and service provision enterprises. All of these co-operative types aim to provide farmers with enhanced outcomes or reduced costs that would not be available to smallholders individually.

CASE  
STUDY**KIENI DAIRY PRODUCTS LIMITED (KDPL), KENYA**

“Kieni Dairy Products Limited is a farmer-owned company with 3,600 registered shareholders, located in Kieni West division of Nyeri North district in Central Kenya. The company hopes to be an effective milk chilling enterprise with a longterm vision of processing specialised niche-market dairy products. KDPL was formed by six farmers’ cooperatives coming together to register a company in 1995. Individual members subscribe for shares directly from KDPL through their respective cooperatives, with a total share value of KES 6 million (USD 77,000). A board of 13 directors elected from the membership of equity shareholders govern KDPL. The company has recently secured a plot of land, well positioned on the Nyeri-Nyahururu highway to develop a chilling plant, in which it will invest KES 1 million. Members currently produce and bulk 16,000 litres per day, selling on to a variety of processors, and expect their chilling hub to handle 15,000 litres per day in its first year of operation.” (Cotula and Vermeulen, 2010, p.75)

As with all agricultural investment models, an enabling legal and wider institutional framework is essential for the successful implementation of these arrangements. Co-operatives and farmer-owned businesses have a long precedence in developing and developed countries. This is often associated with a benign policy environment. Co-operatives, in particular, often benefit from simple regulations and

legal procedures however, these entities are often subject to greater powers of government intervention (e.g. merging or separation of co-operatives) than companies.

Co-operatives and companies allow advantageous pooling of resources facilitating otherwise costly access to markets and value-added activities. smallholders are enabled to work on equal terms with agri-business and the co-operative or company structure grants improved financial flexibility that can enhance capital raising possibilities through equity and debt. However, those who do not meet the eligibility criteria can be excluded, whilst members may be exposed to increased and uninsured down-side risks, including the requirement to deal with complex legal frameworks. Additional challenges include that the raising of significant capital is still limited in developing countries and decision making can be difficult to achieve while trust and motivation may be difficult to maintain, especially where membership is diverse. It must also be noted that co-operatives have a checkered history, e.g. in the 1970s and 1980s these were plagued by political interference and mismanagement by co-operative leaders. It remains to be seen whether farmers are open to re-establishing co-operatives in light of these previous problems.

CASE  
STUDY

## HOW NASFAM SUPPORTS SMALLHOLDERS, MALAWI

“The National Smallholder Farmers Association of Malawi (NASFAM) is the largest independent, smallholder-owned membership organisation in Malawi. Its mission is to improve the livelihoods of smallholder farmers. Through a network of smallholder-owned business organisations, NASFAM promotes farming as a business in order to develop the commercial capacity of its members, and delivers programmes which enhance member productivity. NASFAM is founded on the principles of collective action and is democratically governed by its members.

As a farmers' organisation, NASFAM has empowered the smallholder farmers by giving them the tools to succeed. As a business, NASFAM Commercial has created better markets for farmers to gain income.

**Key lessons learned in this process include:**

- Ensure democratic governance and representation, and effective fiscal management and control – in the longer term, these promote increased returns.
- Only work with motivated smallholder farmers.
- Developing strong linkages with service providers, providing on-site technical assistance and strengthening marketing systems are key recipes for success.
- Take proper time for capacity building – it just does not happen overnight.”  
(Cotula and Leonard, 2010, p.69)

These arrangements enjoy high levels of popularity with governments and development agencies. Their promotion means that engaged smallholders are well-placed to take advantage of production and other opportunities within an ever strengthen institutional environment with good access to capacity support. Scalability opportunities abound.

### 3.2.6 UPSTREAM AND DOWNSTREAM BUSINESS LINKS

These business links encompass arrangements that facilitate smallholder farmers engaging with other local enterprises that may reach beyond direct agricultural production. Upstream links include supply of inputs and business services. The latter including micro-credit, farmer extension services and insurance. Downstream links include specialised wholesale and retail services.

These linkages are widespread and diverse, including certification. For example, fair trade, where agri-business may benefit from supporting farmer groups in attaining and maintaining these standards; specialised intermediaries, providing solutions to overcoming transactions costs associated with dealing with many smallholder suppliers, while meeting the stringent quality standards imposed by large-scale purchasers and smallscale contractors which may provide additional revenue opportunities for local communities. An example of the latter includes provision of harvesting and transport services to smallholders. In smallholder communities in northern Zimbabwe, farmers with access to transportation may provide input supply services for surrounding smallholders without vehicular access (McIndoe-Calder, 2010).

NGOs and development agencies are often crucial in establishing certification schemes including stimulating demand for certified products in markets for processed agricultural output and covering the costs during early stage development of these schemes. Government policies may be supportive where they encourage domestic agency service provision, through promotion of local business or specific tax incentives.

These enterprises facilitate access to high-value niche markets and develop local enterprises that support smallholder farmers. This may result in enhancement of the value-chain and the expansion of economic opportunities associated with local agricultural production. There are clear risks with these types of endeavours, including the challenge in keeping up with changing demand from high-value niche markets, instability as previously on-farm activities are outsourced to local enterprises which may be vulnerable to bankruptcy and the displacement of local service providers as external agri-enterprises enter these markets. It may also be difficult to assess the wider impact of certification schemes, e.g. on smallholders outside of the immediate local community, especially where certification leads to substitution of agricultural output in one developing country for that in another.

While food markets move towards greater concentration and specialisation, the opportunities for bespoke agricultural services will increase. Governments have a clear role to play in the promotion and support of activities that go beyond traditional agricultural production activities by smallholders.



### 3.2.7 LARGE-SCALE AGRICULTURE

Large-scale agriculture may provide spillover effects that smallholders can benefit from, e.g. large-scale enterprises may attract suppliers, buyers and processors and therefore act as a catalyst for agricultural development. This is one of the current agricultural development policies in Tanzania, and was the de facto model in those parts of Zimbabwe where small- and large- scale farmers occupied contiguous land, before the removal of many large-scale farmers in the country (McIndoe-Calder, 2010).

#### CASE STUDY

#### A HYBRID BUSINESS MODEL: THE CASE OF SUGARCANE PRODUCERS, TANZANIA

“With regard to biofuels production in Tanzania, that study discussed the use of “hybrid” business models that combine large-scale farming with outgrower schemes. These models typically consist of a nucleus estate directly controlled by the company, which would have direct control over part of its supply and hold facilities for harvesting and processing; and of contract farming arrangements whereby the company provides inputs to family farmers and the latter sell their produce to the company, thereby augmenting supplies and feeding the processing facilities.

An interesting version of this basic model has been used in Tanzania’s sugar sector. Differently to the “classic” outgrower model, whereby outgrowers merely sell their cane to the mill and the mill processes and sells the produce with no farmer participation, the model used in Tanzania’s sugar industry rewards outgrowers not with a fixed price, but with a share of the revenues generated by the sale of processed sugar. As will be discussed below, farmers can receive up to 55% of the total proceeds, with the company getting the rest. Examples of

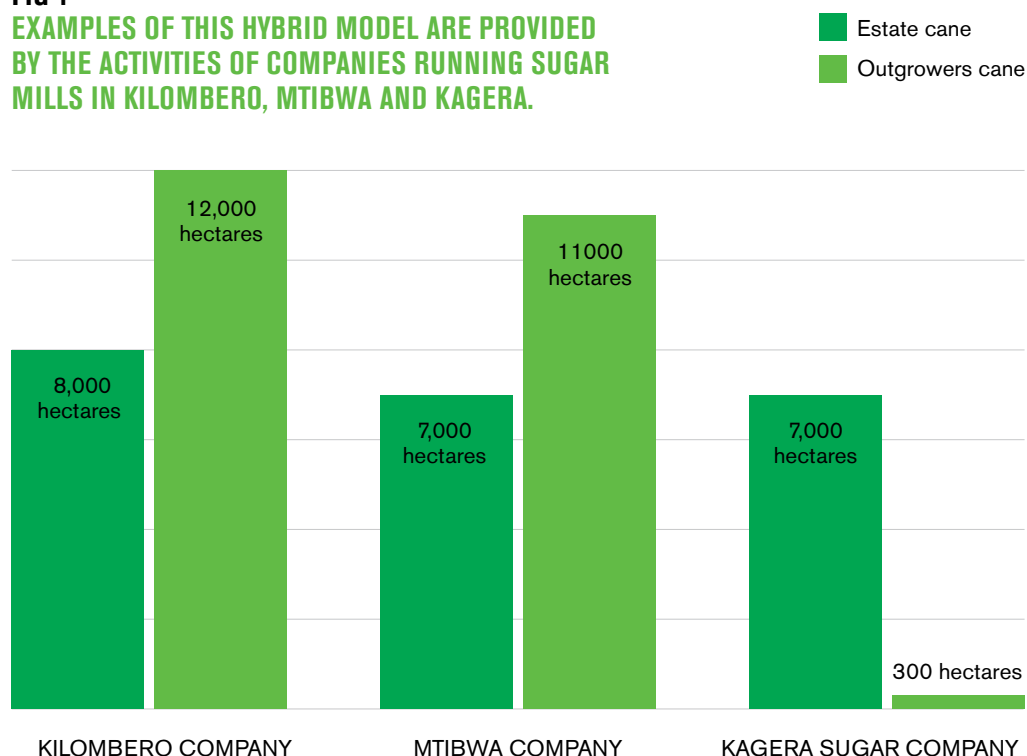
this hybrid model are provided by the activities of companies running sugar mills in Kilombero, Mtibwa and Kagera. Kilombero Company owns an estate of 8,000 hectares, with outgrowers operating over 12,000 hectares; Mtibwa Company owns an estate of 7,000 hectares, with outgrowers operating 11,000 hectares; and Kagera Sugar Company owns an estate of 7,000 hectares, with outgrowers operating 300 hectares. Kagera Sugar Company is in its infancy stage and therefore is yet to fully mobilise outgrowers.” (Cotula and Leonard, 2010, p.73)

Where these spillover effects are not formally recognised, disruption of large-scale enterprises, e.g. as a result of land reform policies, may result in unintended negative consequences for smallholders. However, formalisation or scalability of these mechanisms may also be difficult as large-scale farmers are engaged primarily with agricultural production. The catalyst nature of these effects may be powerful, especially in areas not well serviced by traditional support services for smallholders and not well linked to markets for inputs and outputs.



**FIG 1**

**EXAMPLES OF THIS HYBRID MODEL ARE PROVIDED BY THE ACTIVITIES OF COMPANIES RUNNING SUGAR MILLS IN KILOMBERO, MTIBWA AND KAGERA.**



### 3.2.8 GOVERNMENT-OWNED AGRI-BUSINESS

Although African governments had mainly moved out of the agri-business sector after structural adjustment in the 1980s and 1990s, some governments are considering moves to return to this sector along with extra-national agencies that see significant potential returns to agricultural investments given high commodity prices and climate and energy uncertainties.

Although established to provide smallholders with both secure market outlets for their agricultural surplus and timely supply of affordable inputs, these agri-businesses were often inefficient and ultimately frustrated agricultural development for smallholders rather than facilitating its advancement. In the past these monopoly providers of inputs and markets for smallholders often lacked appropriate governance structures. Additionally, government agencies can be subject to political capture. For example, where a powerful interest group consists of the key purchaser of agricultural output this can lead to purchasing price distortions which affect farmers incomes. For example, the textile industry in Zimbabwe purchasing cotton in the 1980s and 1990s.

### 3.3 EFFECTIVENESS OF OTHER AGRICULTURAL INVESTMENTS

An examination of public and development agency investments in agriculture is required to capture as complete as possible a picture of the effects of all types of agricultural investments on food and nutrition security and on-farm incomes or livelihood outcomes for smallholders.

Allen et al. (2012) examines the effects of different types of social services on agricultural productivity in sub-Saharan Africa. Especially where national budgets are limited, knowing which types of spending enhance agricultural productivity can be valuable. It is important to account for differing labour productivity outcomes across countries, as well as the role of particular inputs and climatic conditions, which can vary greatly across regions. A survey of the literature finds that, while programmes have attempted to increase public investment in Africa, these can be frustrated by corruption, improper targeting, and insufficient funding. However, where implemented successfully, policy changes that enhance the availability and quality of infrastructure services for the poor can have significant effects on health, education, and income levels. Further, evidence suggests that effective expenditure on health and education can positively affect input productivity and efficiency in agriculture.

Burke et al. (2012) examines the specific case of the farmer input support programme (FISP) in Zambia to establish the programme's effect on food production and poverty reduction. Unfortunately it appears that, due to the dual nature of the FISP, the programme has not been a success. Specifically, the least poor farmers, with relatively more land at their disposal, appear to have benefited disproportionately from the programme, whereas the evidence suggests that more intensively farmed, smaller plots would have achieved higher maize yields in response to increased inputs than would larger, less intensively farmed plots.

Gilligan et al. (2012) contributes to the debate on encouraging new technology adoption in smallholder communities. In Uganda, a successful policy to encourage farmers to grow a biofortified variety of sweet potato was successfully marketed towards women on the grounds of the enhanced health benefits of the crop for children. This is a good illustration of a policy investment that required a whole community to accept change in order to overcome an endemic micronutrient deficiency. This intervention recognised that, although in general in these communities men make decisions regarding crop choices, women have significant input regarding food crops consumed by children. In this way the policy intervention was correctly targeted at women on the basis of improved health outcomes rather than enhanced productivity effects.

In undertaking targeted policy interventions to address specific issues within smallholder communities, it is important to understand farmers' preferences for alternate incentives. For example, Marenja et al. (2012) show in Malawi that farmers prefer cash transfers or fertilizer subsidies to insurance provision, even when the expected benefits of the alternate policies is the same. This indicates

that a detailed understanding of the constraints facing farmers is essential in designing appropriate investment strategies. In the case of encouraging adoption of conservation agriculture in Malawi, cash flow and liquidity constraints meant that some investments were preferable to others.

Finally there is a large literature on the importance of timely and appropriate information and telecommunication (ICT) infrastructure. The importance of physical infrastructure to farmers' abilities to access markets is well known, whilst the importance of ICT infrastructure is still becoming established. Zanello et al. (2012) notes that updated and reliable information, e.g. on sales prices of crops in different markets, has direct benefits for farmer welfare, but also that incorrect or unreliable information can be costly. Therefore, households are likely to receive higher prices for their outputs where they gather price information from mobile phones and radios and their spouses are involved in bargaining the transactions, as opposed to gathering information from neighbours, farm extension workers.

### 3.4 LARGE-SCALE LAND ACQUISITIONS

Whilst this paper focuses on agricultural investments sensitive to smallholder needs and development, it is clear that at least part of the shift in policy by donors and national governments towards smallholder sensitive investments is in reaction to the emergence of increasingly wide-spread large-scale land acquisitions by extra-national government and non-government actors as well as domestic interests including agri-business and even parastatals. Cotula et al. (2009) provides a good summary of both the scale of these investments over the last number of years and also a critical evaluation of their potential to generate opportunities or threats for smallholders in developing countries. This is summarized briefly for completeness.

**There are several interrelated reasons that have led to the recent increase in large-scale land acquisitions:**

- Increasing food security concerns,
- The expansion of biofuels production,
- Increased demand for food due to urbanisation and changing diets,
- Emerging investment opportunities with high expected returns, and
- Policy environments which result in developing countries once again becoming attractive investment destinations.

This trend in land acquisitions can indeed be characterised as increasing. However, these still account for a small proportion of suitable arable land in any one country. As a result pressure is increasing on higher value lands, e.g. those with irrigation potential or proximity to markets. The private sector is dominant in these land deals, though often with strong government support, indeed public

investment is also significant. The trend is one which sees foreign investors dominate these land deals, although domestic investors are thought to play an increasingly significant role.

These deals may well result in increased agricultural output and associated positive effects on growth and employment. However, the down-side risks appear substantial. These include food insecurity, especially for those losing access to land and for those recipient countries that already face food insecurity issues. Further, the perception that investors target unused, abundant land should be treated with caution. The vulnerability of nomadic and semi-nomadic communities is of particular concern. This points to the importance of the specific terms and conditions associated with individual land deals, specifically in relation to how context specific risks are assessed and mitigated and how the costs and benefits of each deal are shared. Capacity of affected smallholders and an institutional environment that is transparent and protects long-term domestic agricultural interests is crucial. International development agencies have recognised the importance of their engagement in this area, e.g. the “Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security” (Committee On World Food Security, 2012). However, they are not immune from criticism in the part they have played in these deals to date.

Further analysis of these large-scale land investments is beyond the scope of this paper. However, a recent conference ‘Global Land Grabbing: Update from the International Conference on Global Land Grabbing’ organised by the Land Deals Politics Initiative provides an evidence-based evaluation of many of these deals focusing on the outcomes of the deals for local communities.<sup>7</sup>

### 3.5 SUMMARY OF CRITICAL ASSESSMENT

Reviewing these models, and known examples of their implementation to date, quickly shows that no single model emerges as the optimal choice for all smallholders in all situations. It is entirely unsurprising that context is everything with regard to achieving the best possible outcomes for smallholders when assessing alternate investment options. Indeed, available evidence is often not transferable across national or cultural boundaries. Specifically, natural resource rights, information availability, the governance environment, the cultural and demographic characteristics of each situation as well as the specific agro-ecology facing the farmers themselves are important in choosing appropriate investment models that will benefit smallholders whilst attracting agri-business engagement. The relative negotiating power of each group is unlikely to be equal, due to differentials in knowledge about the specific agricultural environment (where farmers may have the competitive advantage) and how market systems can be harnessed to generate maximum benefit for all parties (where the capacity of smallholders to engage with agri-business might be compromised).

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<sup>7</sup> Conference papers can be downloaded at: [www.future-agricultures.org/land-grab.html](http://www.future-agricultures.org/land-grab.html).



Multilateral donors appear to have embraced the idea that increased investment in smallholder agriculture is an integral part of addressing both the food insecurity and climate change challenges facing the world's poorest people.

## 4. CURRENT POLICY ENVIRONMENT

The domestic and international policy environment faced by agriculture in developing countries is an important determinant in which investment models are available to smallholders. As has been discussed in this paper, smallholders face particular challenges in accessing information and finance. Similarly, they depend to a large extent on the institutional structure within which they find themselves when making decisions as to the nature of any agricultural investments they may wish to undertake.

After a period of decline, there has been a renewed focus on increasing agricultural investment by donors and developing country governments. Agricultural investment, broadly defined, appears to be increasingly seen as an important component in generating increased agricultural productivity which, in turn, is expected to alleviate several, interlinked, challenges facing developing countries, including: achieving high economic growth; hunger; food and nutrition insecurity; food price increases; climate change; and the effects of developed country biofuels policies.

### 4.1 MULTILATERAL DONORS

Multilateral donors appear to have embraced the idea that increased investment in smallholder agriculture is an integral part of addressing both the food insecurity and climate change challenges facing the world's poorest people. For example, IFAD (2012) sees a multitude of donors and philanthropic organisations outlining several key challenges facing smallholder farmers in poor countries. The paper notes that these farmers feed one-third of the global population and generating sustainable solutions to declining agricultural productivity for these farmers will be crucial in both achieving lasting global food security and natural resource protection.

**The challenges faced by smallholders and identified by IFAD as providing potential areas of specific policy interventions include:**

- Declining productivity due to a lack of irrigation, fertilizer and improved seeds, and shrinking farm sizes;
- Insecure natural resource tenure due to weak institutions and unjust laws and practices;
- Insufficient infrastructure which frustrates access to value chains and urban markets, reduces capacity to coincide market entry with demand and often inadequate storage and transportation facilities;
- Inadequate training and education in sustainable agriculture;
- Lack of access to new seeds and farming technologies and few incentives to adopt new crop varieties, e.g. low market integration, limited access to finance and few risk mitigation tools. Here IFAD notes the importance of maintaining biodiversity, an important aspect of the debate around usage of improved seeds; and
- Inadequate financial services including income and crop insurance products.

These challenges clearly suggest areas for investment to be targeted and also remaining policy issues and process debates where broad agreement may not have been reached either by donors, developing country governments or farmers groups.

**The IFAD document, generated out of discussions among a diversity of actors, suggests the following as ways to address the challenges facing smallholders:**

- Looking for solutions to smallholder farmer issues at the local level;
- Equipping smallholders, especially women, with the tools they need to mitigate the risks they face as farmers, including access to finance and engaging private investment in ways that put smallholder needs at the forefront of investment deals and financial products;
- Recognising and strengthening local farmer groups as a way to elevate smallholders' engagement with policy makers and investors; and
- A real move towards ensuring any investment in smallholder agriculture is climate appropriate and acknowledges the risks that climate change poses, especially for farmers on already marginal land and in low rainfall areas in Africa.

Monitoring, evaluation and peer pressure are also seen as useful tools to ensure that policy interventions and investments are appropriate and effective. For example, Bill Gates suggests the establishment of an index comparing how national governments, food agencies and donors are contributing to tangible poverty reduction (IFAD, 2012).

On agricultural investment in particular, there is strong donor engagement, e.g. Miller et al. (2010) examines agricultural investments, specifically agricultural investment funds, that are aimed at improving outcomes at the start of the value chain, i.e. for smallholders. Miller et al. (2010) note that public investment has an important role to play here, including government and donor funding, due to the specific characteristics and risks related to agriculture. This encompasses the need for large, costly infrastructure networks and institutional capacity building. The public-good nature of these network and institutional investments means that they are unlikely to be provided by private investment funds. An example of an innovative investment that falls into this category is Rabobank's 'sustainable agricultural guarantee fund', which relies on grant funding from the Dutch government and provides capacity building and support for rural co-operatives in the areas of savings, credit provision and micro-insurance.

#### 4.1.1 LARGE-SCALE LAND INVESTMENT

An area currently receiving much attention from policy makers and governments is that of large-scale land investments. Both the UN and EU parliament have produced documents on the observed increase in large-scale land investments in developing countries by a variety of international and national actors driven by global factors affecting food and energy security, in a wide sense (Schutter, 2009; European Parliament, 2011).

European Parliament (2011) examines large-scale land acquisitions with a focus on smallholders. It attempts to identify alternatives to these acquisitions. The document goes some way towards evaluating large-scale acquisitions to date and with a view to directing EU initiatives that affect these sorts of arrangements in such a way as to ensure policy coherence within the EU. For example, biofuels policies and strengthening EU initiatives in the areas of agricultural development in developing countries. Schutter (2009) places large-scale land investments in context and, within a rights-based framework, establishes the root causes of the resurgence in agricultural investment in general, and large-scale investment in particular, and provides several recommendations for mutually beneficial investments that protect smallholders.

Finally, Committee On World Food Security (2012) is an attempt by the CFS to generate broad commitment to responsible management of land and natural resources with a focus on generating sustainable food security outcomes for all. The document is very broad and may use language that is less prescriptive than might have been hoped for by some donor agencies. However, it is an important starting point in establishing first, a global recognition of the importance of appropriate land and natural resource management, and secondly the important link between these and global food security.

## 4.1.2 AGRICULTURAL RESEARCH AND DEVELOPMENT

Competing models for agricultural research and development activities have also received significant attention in the international donor community with policy implications that have direct relevance for smallholders in developing countries.

Debate around appropriate agricultural research and development is especially relevant for Ireland, whose engagement with agricultural investment policies has a large focus on this area. For example, through support of the Comprehensive Africa Agriculture Development Programme (CAADP).

The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) has recently challenged the CAADP framework with regards to agricultural research (IAASTD, 2009). The IAASTD was established to assess the impact of agricultural knowledge on the reduction of hunger and poverty, improvements in rural livelihoods and health, and the achievement of equitable and broadly sustainable agriculture. The IAASTD views agricultural science as previously focused on delivering tools to increase farm-level productivity (in the context of market and institutional factors) as a driver of technology adoption. However, new challenges require an adaptation of agricultural science to more appropriately allow sustainable value-addition. Specifically, IAASTD maintains that farmers must increasingly be recognised as producers and managers of ecosystems and that all actors along the value-chain will need to be encouraged to internalise the (damaging) externalities they currently generate that ultimately compromise agriculture's ability to provide sustainable food security for all.

Specifically, APRODEV and PELUM (2012) note that while CAADP has successfully raised the policy commitment to agricultural productivity gains in Africa, several key issues need to be addressed on the implementation of policies to achieve these gains.

- CAADP commitments to substantially increase national agricultural budgets have not been realised;
- Crucially, women (a very important part of the agricultural landscape in Africa) have not yet been fully incorporated into countries' agricultural strategies;
- CAADP promotes a green revolution model which relies on costly external inputs. This model excludes non-input intensive alternatives, e.g. sustainable agriculture approaches. Further, the current approach may not result in scalable, sustainable models that can deliver long-term productivity gains for poor smallholders;
- The agricultural research and development promoted by CAADP does not protect farmers' rights strongly enough with regards to traditional seed management; and
- Smallholders, especially women, have insufficient input with respect to the design of agricultural research policies this diminishes the potential effectiveness of these policies.





These criticisms highlight clear reforms to CAADP that may yield a model more able to deliver on CAADP's stated aims to increase agricultural productivity in developing countries in order to stimulate economic growth.

## 4.2 IRELAND'S POLICY ENVIRONMENT

Ireland's bilateral and multilateral engagement with the area of agricultural investment models can be viewed through at least two lenses. First, agricultural investment can be seen as one part of Ireland's development policy to reduce hunger and food insecurity globally. Secondly, Ireland's role in formulating and implementing any development policy must also be viewed within a wider policy coherence framework.

Reducing global hunger has become one of Ireland's, and Irish NGOs', key development commitments, and an area of specialist policy intervention for Irish Aid and several Irish development NGOs. Hunger Task Force (2008) (HTF) describes Ireland's objectives and has been useful in raising the country's global profile in this area. The Hunger Task Force (2008) and a follow up document, Special Envoy on Hunger to the Irish Government (2010), contextualise Ireland's commitment to hunger reduction globally through a rights-based framework and partly driven by the country's own history with the devastation of famine, albeit 150 years ago.

### **The HTF recommended three specific areas of action:**

- Increasing the agricultural productivity of smallholders, especially woman farmers, in Africa;
- Assist in practical policies to actively reduce maternal and infant under-nutrition; and
- Ensure real (national and international) political commitment to the prioritisation of hunger.

### **Special Envoy on Hunger to the Irish Government (2010) aimed to provide advice on the implementation of the HTF's report and suggested:**

- An emphasis on evidence-based monitoring and evaluation of hunger focused programmes, including developing staff capacity for monitoring and evaluation at Irish Aid and Irish NGOs;
- A move towards scaling-up of successful programmes;
- A stronger emphasis on linking agricultural research and implementable policies to reduce hunger, including a dissemination of research-derived knowledge useful to farmers, and more cooperation between Irish Aid and southern researchers; and

- Cross-departmental work between Irish Aid and the Department of Agriculture, to take advantage of Ireland's store of agricultural policy and practice knowledge that can be shared with developing country smallholders.

With regard to policy coherence, King and Matthews (2012) describes a framework to evaluate development policy formulation in the EU. Ultimately, 'policy stance indicators' are not included in the framework. These indicators would signal situations where Ireland differs from the wider EU stance with regard to particular development policies. This is currently a key challenge for agricultural investment policies. For example, understanding where countries agree and disagree with regard to appropriate governance of land and natural resources is of paramount importance to the potential effectiveness of specific agricultural investment projects. Additionally, Ireland's trade, agricultural, fisheries, and environmental policies have the potential to come into conflict with the country's stance on agricultural development in poor countries. Specifically, EU policies on biofuels have direct impacts on food security for developing countries, and some trade policies arguably result in diminished agricultural development in these countries, e.g. through trade restrictions on processed agricultural products.

### 4.2.1 IRELAND: SPECIFIC POLICIES TOWARDS APPROPRIATE AGRICULTURAL INVESTMENT

Examining Ireland's strategic goals in relation to Africa at a broad level Department of Foreign Affairs and Trade (2011) outlines the department's current thematic priorities: hunger, climate change, gender equality, HIV/AIDS and good governance. The document also outlines key action points to guide development of Ireland's relationship with African countries. These include engagement with African partners (governments, private sector, NGOs) encompassing regional integration as an engine of political stability and economic growth, advocacy at the EU level, support of the UN reform agenda, supporting trade and investment between Ireland and Africa and academic and research collaboration between Ireland and Africa. The latter may include an examination of fee levels for Irish Aid Fellowship Training Students and other students from Irish Aid partner countries.

Irish Aid's policies (Irish Aid, 2011) focus specifically on hunger and under-nutrition reduction as 'strong priorities'. This is evidenced in programmes that Irish Aid funds in Malawi, Mozambique and Tanzania. These include support for improved governance, support of national agriculture policies, and building household resilience in Malawi. Programmes that improve land rights including supporting community organisations and support for several hundred woman farmers in education programmes aiming to increase smallholder yields in Mozambique. In Tanzania, providing funding to support a governmental policy to increase smallholder agricultural infrastructure (irrigation etc.), support to farmers' groups to increase their market access capacity around negotiating market information and achieving higher prices for their output and encouraging the development of farmer access to supply networks in order to promote increased use of agricultural inputs.



**There is demonstrable potential for more balanced trading relationships that promote sustainable development and reduce poverty.**

As well as these country-specific policies, Irish Aid is committed to supporting smallholders through the Consultative Group on International Agricultural Research (CGIAR) and to sustainable environmental outcomes through financial and technical assistance for developing-country governments' priorities in this area. For example, Irish Aid supports the UN's Policy and Environment Institute which is active in Rwanda and Mozambique.

Departments other than Irish Aid also have a role to play in Ireland's efforts to meet the HTF's recommendations. Specifically, the Department of Jobs, Enterprise and Innovation sees engagement with African countries with regard to developing trade relationships as an important part of the country's wider recovery strategy (Department of Trade, Enterprise and Innovation, 2010). However, O'Caoimh and McGauley (2011) evaluate Ireland's trade with Irish Aid programme countries in Africa and do not find very encouraging results. Trade trends between Ireland and Irish Aid countries show Ireland importing less from these countries, despite these countries' exports having increased to the rest of the world over the time period (1995-2010) investigated. However, the goods that Ireland does continue to import from these countries are increasingly comprised of processed products rather than raw agricultural output. While Ireland's overall trade trends with Irish Aid programme countries are disappointing for both development and policy coherence, O'Caoimh and McGauley (2011) concludes there is demonstrable potential for more balanced trading relationships that promote sustainable development and reduce poverty.

Finally, a recent development initiative between Irish Aid and the Department of Food, Agriculture and the Marine has seen the establishment of the African Agri-Food Development Fund (Africa Agri-Food Development Fund, 2012). This is a two-year investment fund which seeks to support the development of the agri-food sectors between Kenya and Tanzania (initially) and Ireland, via knowledge transfer between Irish agri-foods companies and African enterprises in order to build and strengthen the African food industry as one way to alleviate hunger and under-nutrition challenges. It is envisaged that these partnerships will support the sustainable growth of local food industries, build markets and support mutual trade. It is envisaged that engagement will be around the themes of food safety, animal health, business development, production systems, training, technology transfer, research and development and project management. The pilot phase of this initiative is to run from 2012-2013 at which point more information will become available as to the impact of early projects and whether the departments will continue with or scale-up this initiative.

## 4.3 INTERVIEWS AND EXPERIENCE

Several interviews were carried out as part of this research in order to gain a deeper understanding of key actors in the policy and practice sphere in Ireland with regard to agricultural investment for developing countries. The following 'Interview Snapshot' boxes outline the key findings from the interviews described above.

### 4.3.1 INTERVIEW SNAPSHOT: IRISH AID, PAULA KENNY

**Q1. What guiding principles are used in your organisation to prioritise development, especially agricultural, projects?**

Irish Aid is guided by the Hunger Task Force Report and the Report of Ireland's special Envoy on Hunger.

**Q2. Does your organisation focus on specific development areas?**

Specifically, Irish Aid focuses on the eradication of hunger, it is envisaged that this will remain a key priority area for the foreseeable future. Irish Aid seeks to improve smallholder agricultural productivity, target maternal and infant under-nutrition and promote governance and global leadership to reduce global hunger.

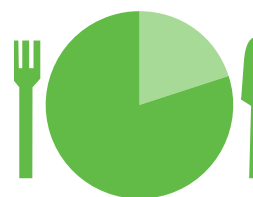
**Q3. How many of your organisation's projects relate directly to agricultural investment and/or smallholder farming?**

Irish Aid has delivered on the HTF's recommendation that 20 percent of its budget be directed towards actions to reduce global hunger.

**Q4. Can you provide examples of smallholder focused agricultural investment projects that your organisation supports?**

Irish Aid supports eight CGIAR centers, and advocates a focus on smallholder women farmers, nutrition, climate change and gender sensitive research with concrete plans to implement this research at scale.

- In Ethiopia: Introduction of new sweet potato varieties and dissemination of operational research on climate-resilient agriculture.
- In Malawi: Introduction of new sweet potato varieties, improved seed variety research and food security and nutrition programmes through the integration of trees (for fertilizer, fodder, fruit and fuel) on farms.
- In Tanzania: A dairy value-chain research project.
- In Lesotho: A conservation agriculture project.
- In Sierra Leone: A smallholder commercialisation project.



**20% of Irish Aid's budget is now directed towards actions to reduce global hunger.**

**Q5. Does your organisation utilise advocacy to influence current discussions in the area of agricultural investment and/or smallholder farming?**

Irish Aid uses the following as additional ways to influence the policy debate, including on agricultural investment:

- Ireland is a member of agricultural working groups in Tanzania and Malawi. This involves Irish Aid staff from embassies in these countries attending meetings for these technical groups, where other meeting attendees would include donors, ministry staff and civil society groups.
- As an EU member state, Ireland engages with EU institutions to ensure hunger remains a priority on the EU agenda.
- Irish Aid contributes to the formulation of strategies, frameworks and resolutions at the international level specifically with regards the needs of smallholder women farmers; including at the UN, IFAD, OECD (DAC).

**Q6. What, in your opinion, is Ireland's position with regard to the promotion of appropriate smallholder focused investment in Africa?**

Irish Aid is responsible for formulating Ireland's position on smallholder agriculture in Africa, and provides input to other governmental departments when requested. Through Irish Aid's engagement Ireland has strongly advocated incorporating nutrition objectives into agricultural strategies via engagement with developing country governments. Ireland is also leading both agricultural research for development and implementation of this research, e.g. integrated research and development programmes on agroforestry, groundnuts and sweet potatoes in Malawi and Ethiopia.

### 4.3.2 INTERVIEW SNAPSHOT: DEPARTMENT OF AGRICULTURE, FOOD AND THE MARINE, COLM HAYES

**Q1. What guiding principles are used in your organisation to prioritise development, especially agricultural, projects?**

The Department manages part of the Government's Overseas Development Aid budget. This aid is untied, often relates to crisis situations, e.g. through support of the UN World Food Programme (WFP) campaigns and in addition supports multilateral projects in several areas, e.g. through support of the work of the UN Food and Agriculture Organisation (FAO).

**Q2. Does your organisation focus on specific development areas?**

A broad range of interventions in the agri-food sector are supported through Irish Aid's programmes implemented by state and non-state partners. These include projects directly related to the agri-food sector in Tanzania, Malawi, Ethiopia and Mozambique.

**Q3. How many of your organisation's projects relate directly to agricultural investment and/or smallholder farming?**

The Department supports some projects through the FAO, including some food security programmes and the FAO One Health programme. In addition Teagasc also collaborate on projects with Irish Aid and NGOs including food research related to developing countries and technical assistance programmes aimed at agricultural training and extension services.

**Q4. Can you provide examples of smallholder focused agricultural investment projects that your organisation supports?**

Relevant FAO projects include the 'One Health' project which aims to tackle animal diseases worldwide and developing early warning systems to identify flooding, e.g. to benefit smallholders and an investigation of the environmental aspects of livestock supply chains.

**Q5. Does your organisation utilise advocacy to influence current discussions in the area of agricultural investment and/or smallholder farming?**

Through supporting agricultural research and engagement at multilateral meetings including the FAO, WFP, IFAD and CFS.

**Q6. What, in your opinion, is Ireland's position with regard to the promotion of appropriate smallholder focused investment in Africa?**

The Department supports the SUN initiative, especially the role of women smallholders. It believes in the benefits of early warning systems regarding disaster preparation and recovery and in assisting smallholders in helping themselves. With regards to Ireland's current 'Africa Strategy', and agricultural investment, the AADF is a coming together of a number of different but complementary Government policies, one of which of course is the Africa Strategy. This Department is pleased to play its role in the implementation of the Africa Strategy as appropriate.

### 4.3.3 INTERVIEW SNAPSHOT: THE AFRICAN AGRI-FOOD DEVELOPMENT FUND, COLM HAYES

**Q1. What guiding principles are used in your organisation to prioritise development, especially agricultural, projects?**

The objectives of the AADF are to develop development partnerships between the Irish Agri-food sector and African countries to support sustainable growth of the local food industry, build markets and support mutual trade. These projects are based on sharing knowledge and experience in order to stimulate increased productivity and sustainably intensify the agricultural sector in partner countries. The AADF has adopted the FAO, IFAD, UNCTAD and World Bank voluntary principles for responsible international investment in agriculture.

**Q2. Does your organisation focus on specific development areas?**

This may involve a combination of financial and technical assistance. As partnerships develop the Irish private sector may scope mutually beneficial opportunities for trade and investment.

**Q3. How many of your organisation's projects relate directly to agricultural investment and/or smallholder farming?**

Specific projects will be implemented once they have been developed over the next two years and it is envisaged that these will encompass different types of assistance such as investment or technology transfer in the African agri-food sector.

**Q4. Can you provide examples of smallholder focused agricultural investment projects that your organisation supports?**

The AADF will not directly target smallholders, to avoid duplicating work already undertaken by Irish Aid. Rather the AADF will address deficiencies further up the value-chain which will benefit smallholders by increasing the security of demand for their products and provide them with the tools required to increase their productivity.

**Q6. What, in your opinion, is Ireland's position with regard to the promotion of appropriate smallholder focused investment in Africa?**

The AADF is a coming together of a number of different, yet complementary, Government policies on development which it is believed will contribute to Ireland's overall development strategy.

**4.3.4 INTERVIEW SNAPSHOT: TROCAIRE, MICHAEL O'BRIEN & TOM CROWLEY****Q1. What guiding principles are used in your organisation to prioritise development, especially agricultural, projects?**

Trocaire's core values are: solidarity, participation, persistence, courage and accountability. The principles that guide its programmes include: partnership, a focus on poverty, innovation, transformation, sustainability and a recognition of micro-macro linkages.

**Q2. Does your organisation focus on specific development areas?**

Trocaire focuses on food security and resilient livelihoods. For example, access to growing incomes and resource rights with annual, deliverable milestones that include: driving access to markets and resources, gender mainstreaming, HIV/AIDS mainstreaming, research and field-based evidence informing policy work.

**Q3. How many of your organisation's projects relate directly to agricultural investment and/or smallholder farming?**

Trocaire currently has 14 projects that are related to livelihoods and environmental justice programmes: five in Latin America, seven in subSaharan Africa and two in Asia. These projects account for one-third of the organisation's total budget.



**Q4. Can you provide examples of smallholder focused agricultural investment projects that your organisation supports?**

An example of these projects is a resource rights programme in Uganda. Here LEMU is working with a widowed woman to restore her land rights her land had been appropriated by one of her husband's relatives with more resources than her. LEMU is active at the community level, building capacity of courts and local people as well as assisting directly in dispute resolution; at the national level, advocating on land rights under customary tenure and at the international level advocating on these issues with donors and governments.

**Q5. Does your organisation utilise advocacy to influence current discussions in the area of agricultural investment and/or smallholder farming?**

Trocaire also engages in research projects to inform more effective practice and policy to enhance advocacy engagement with external stakeholders. For example, Trocaire (2011) showcases research on models of production to enhance food security, reduce poverty and address climate change.

**Q6. What, in your opinion, is Ireland's position with regard to the promotion of appropriate smallholder focused investment in Africa?**

Trocaire sees Ireland as having a generally good position with regards to agricultural investment sensitive to smallholder farmers. It acknowledges that there is an ongoing challenge to promote policy coherence internationally, e.g. APRODEV and PELUM (2012) but notes that Ireland has achieved some progress on this. Trocaire would see Ireland prioritise climate change adaptation, noting that there has been some commitment on this internationally but emphasising a need for advocacy of predictable and scalable additional public finances for this area. Trocaire notes that some glaring areas of policy incoherence remain in Ireland, e.g. the country's very high per capital carbon emissions. Lastly, Trocaire notes an important missing component from the Hunger Task Force's report, namely the lack of prioritisation of resource rights and emphasising that leadership on hunger alleviation requires recognising this as a significant area of concern.



The way in which natural resource reform is carried out is ultimately very important, with equal emphasis required on the complex support structures that are necessary to support this reform.

## 5. EMERGING ISSUES: THE WAY FORWARD

This paper has contextualised the need for a focus on agricultural investment models and motivates the need for a deep understanding of natural resource rights and the wider institutional and governance environments facing smallholder farmers, in particular women.

It then critically evaluates several models of agricultural investment that are sensitive to smallholders as well as a brief examination of large-scale land investments which have received much recent attention from policy makers and academics. Finally, it describes the current policy environment informing agricultural investment in developing countries, both internationally and from an Irish perspective. Several case studies are used to illustrate the investment models described while the responses to interviews carried out to complement this research are summarised to highlight the nature of the policy environment in Ireland and the challenges and opportunities it currently faces.

The wide literature on agricultural investment examined here suggests the following: that *ceteris paribus* natural resource ownership leads to increased investment and productivity gains. However, the conditions within which ownership leads to increased private investment and productivity gains includes the existence and accessibility of formal credit markets, that any pressures for farmers to sell to outside investors should not ultimately see farmers return to poverty and that any formal titling or ownership schemes should not undermine important community structures especially where existing formal structures are well known and facilitate transparent land transfer. Thus, the way in which natural resource reform is carried out is ultimately very important, with equal emphasis required on the complex support structures that are necessary to support this reform.

As seen in Cotula and Vermeulen (2010), how agricultural investment models are chosen in practice, how the challenges that the implementation of each is addressed, and the impact of each model on the livelihoods, income and empowerment of smallholder farmers, is essential in evaluating the success of any given model. Therefore, national policies that support appropriate models will be important in guiding farmers and agri-business in choosing investment structures.

This indicates that international policy action is desirable especially with regard to strengthening developing country government-capacity in this area and assisting smallholder groups in acquiring effective bargaining and evaluation skills as they face competing investment opportunities.

It is also important to note (Cotula and Leonard, 2010) that collaborative business models can only go so far in addressing the challenges that smallholder farmers face, especially in agro-marginal land zones and in dealing with the effects of on-going climate-related disruption to their livelihoods. Even given the potential benefits that investment in the agri-sector can yield, some investment projects will fail. This requires appropriate safeguards to be in place to assist local communities in addressing the implications of possible failure. Additionally, for conditions to exist that facilitate optimal outcomes for smallholders, agri-businesses and their interests must be incentivised and monitored by benevolent public policy. Given the governance environment in many developing countries, this may still be an heroic requirement, but one that the international development community is well placed to address over time. Finally, monitoring and evaluation of these investment models is crucial both to ensure positive outcomes for smallholder farmers engaging in these models, and also as a means to establishing the scalability of such endeavours.

The international policy environment informing agricultural investment sees this area as a key aspect of a broader agenda. That is, the achievement of food and nutrition security and as part of a sustainable economic growth strategy for developing countries where large sections of society rely on agriculture for their livelihood needs and face an increasingly unstable market and climate environment. Some of the challenges and debates currently on-going in the international policy community, including agreement on the optimal model for agricultural research and the prioritisation (or lack thereof) of the sustainable management of natural resources, are highlighted in section 4. This suggests that on-going advocacy in this area is much needed and that evidence-based evaluations of existing successful policy interventions are a powerful way to inform these debates.

Agricultural investment is an area of policy priority for the country, and is a key feature of Ireland's strong engagement in the fight against global hunger.

## 5.1 RECOMMENDATIONS

Finally, Ireland's engagement with agricultural investment in developing countries is discussed along with key recommendations emerging from the reviewed literature and policy debates. This is an area of policy priority for the country, and is a key feature of Ireland's strong engagement in the fight against global hunger. However, areas of policy incoherence remain. For example, Ireland's per capita carbon emissions and aspects of its trade policies are at odds with its commitment to see real agricultural gains achieved in developing countries. Similarly, although broad commitment to agricultural investment has probably been established within the government agencies directly involved in the implementation of the country's development objectives and the country's development NGOs there are remaining areas of ambiguity, contention or disagreement:

- How the country engages with agricultural research and development needs more critical examination and an orientation towards the IAASTD model.
  - Ireland's support of CAADP needs to be re-examined in this light.
- A stronger focus on environmental sustainability as part of the agricultural research agenda is required to ensure maximum effectiveness and coherence of the country's agricultural investment agenda.
  - Using the framework set out in King and Matthews (2012) may provide guidance on how best to establish the extent of any policy incoherence and how to address this at an inter-ministry level.
- Evidence-based assessment of policies and practices undertaken by Irish NGOs and supported by the Irish government must be established in order to effectively evaluate the impact of these programmes in developing countries.
- Clarity is required as to how Irish stakeholders propose to support the implementation of the "Voluntary Guidelines On The Responsible Governance Of Tenure Of Land, Fisheries And Forests In The Context Of National Food Security".
- Although it is too early to undertake a thorough examination of the AADF, the following questions can be posed as to the AADF's process:
  - Who should be involved in identification, planning, implementation and monitoring and evaluation of initiatives? and
  - How do the outcomes of such initiatives align with Ireland's priority development objectives?

Addressing these issues will result in a stronger, overall Irish position in the area of advocacy, policy and programming as relevant for agricultural investment in developing countries, especially, in Africa.

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