Review of Warehouse Receipt System and Inventory Credit Initiatives in Eastern & Southern Africa

Final draft report commissioned by UNCTAD under the All ACP Agricultural Commodities Programme (AAACP)

The views expressed in this paper are those of the author and do not necessarily reflect the views of the United Nations

September 2009
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**GLOSSARY OF ABBREVIATIONS**

<table>
<thead>
<tr>
<th>Collateral manager</th>
<th>Company that ensures the integrity of warehouses and the quality of commodities held therein, so that these can be offered as loan collateral</th>
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<tbody>
<tr>
<td>Commingled (grain in a WRS)</td>
<td>Where commodity of the same type, variety (if appropriate) and grade deposited by two or more depositors are held together in storage so that any part of the common deposit may be issued in delivery against a warehouse receipt, irrespective of the original depositor (opposite of identity-preserved)</td>
</tr>
<tr>
<td>Grain elevator</td>
<td>(Originally, in America) a multi-storey building, used for storage of grain in bulk</td>
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<tr>
<td>Elevator company</td>
<td>American term for a grain company running a grain storage operation</td>
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<tr>
<td>Field warehousing</td>
<td>A warehousing service provided in the clients’ premises, normally to enable the client to obtain financing against stock held there. The service provider leases the premises for a nominal fee and is responsible for control of the commodities used as collateral</td>
</tr>
<tr>
<td>Identity preserved (commodities)</td>
<td>Where specific commodities are held in storage so that they remain attributable to that depositor – the commodities may or may not be of a recognizable grade but must meet storage criteria (opposite of commingled)</td>
</tr>
<tr>
<td>Negotiable (warehouse receipt)</td>
<td>A warehouse receipt that is not only transferable but confers upon the transferee a direct interest in the underlying property free of any outstanding claims not noted on the receipt (e.g. outstanding storage charges)</td>
</tr>
<tr>
<td>Private warehouse</td>
<td>a warehouse not accepting deposits from whosoever wishes to deposit</td>
</tr>
<tr>
<td>Public warehouse</td>
<td>a warehouse accepting deposits from whosoever wishes to deposit</td>
</tr>
</tbody>
</table>

**GLOSSARY OF ABBREVIATIONS**

<table>
<thead>
<tr>
<th>AAACP</th>
<th>All ACP Agricultural Commodities Programme</th>
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<tr>
<td>ADMARC</td>
<td>Agricultural Development and Marketing Corporation of Malawi</td>
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<tr>
<td>AFD</td>
<td>French Development Agency</td>
</tr>
<tr>
<td>AMSDP</td>
<td>Agricultural Marketing Systems Development Programme</td>
</tr>
<tr>
<td>ACE</td>
<td>Audit, Control &amp; Expertise (inspection, collateral management agency and credit support agency)</td>
</tr>
<tr>
<td>CBOT</td>
<td>Chicago Board of Trade</td>
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<tr>
<td>CCC</td>
<td>Commodity Credit Corporation</td>
</tr>
<tr>
<td>CECAM</td>
<td>Caisse d’Epargne et de Crédit Agricole Mutuel = Mutual Agricultural</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>CFC</td>
<td>Common Fund for Commodities</td>
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<td>GCV</td>
<td>Common Village Granary (Madagascar)</td>
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<tr>
<td>CLUSA</td>
<td>Cooperative League of the United States</td>
</tr>
<tr>
<td>CMA</td>
<td>collateral management agreement</td>
</tr>
<tr>
<td>CSBF</td>
<td>Commission for Banking and Financial Supervision, Madagascar</td>
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<tr>
<td>EAGC</td>
<td>Eastern African Grain Council</td>
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<td>eWR</td>
<td>electronic warehouse receipt</td>
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<tr>
<td>FICO</td>
<td>Financial Cooperative (Tanzania)</td>
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<tr>
<td>FRA</td>
<td>Food Reserve Agency, Zambia</td>
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<tr>
<td>FSDT</td>
<td>Financial Sector Deepening Trust (Tanzania)</td>
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<tr>
<td>ICAR</td>
<td>International Association for Agricultural and Rural Credit</td>
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<tr>
<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
</tr>
<tr>
<td>KIFWA</td>
<td>Kenya International Freight Forwarding and Warehousing Association</td>
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<tr>
<td>LRP</td>
<td>local and regional purchase (by food aid agencies)</td>
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<tr>
<td>MAWTCO</td>
<td>Malawi Agricultural Warehousing &amp; Trading Company</td>
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<tr>
<td>MCA</td>
<td>Moshi Coffee Auction</td>
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<tr>
<td>MF</td>
<td>microfinance</td>
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<tr>
<td>MFI</td>
<td>Microfinance Institution</td>
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<tr>
<td>NCPB</td>
<td>National Cereals and Produce Board, Kenya</td>
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<tr>
<td>NFRA</td>
<td>National Food Reserve Agency (separate agencies in Malawi and Tanzania)</td>
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<tr>
<td>NMC</td>
<td>National Milling Corporation</td>
</tr>
<tr>
<td>NRI</td>
<td>Natural Resources Institute, University of Greenwich</td>
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<tr>
<td>OIBM</td>
<td>Opportunity International Bank of Malawi</td>
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<tr>
<td>PCB</td>
<td>participating commercial bank (in AMSDP warehouse receipt project, Tanzania)</td>
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<tr>
<td>PS</td>
<td>Primary Society</td>
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<tr>
<td>SACCOS</td>
<td>Savings and Credit Cooperative Society</td>
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<tr>
<td>PO</td>
<td>producer organisation</td>
</tr>
<tr>
<td>SAFEX</td>
<td>South African Futures Exchange (part of Johannesburg Stock Exchange)</td>
</tr>
<tr>
<td>UCE</td>
<td>Uganda Commodity Exchange</td>
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<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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<td>WFP</td>
<td>World Food Programme</td>
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<tr>
<td>WR</td>
<td>warehouse receipt</td>
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<tr>
<td>WRS</td>
<td>warehouse receipt system</td>
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<tr>
<td>ZAMACE</td>
<td>Zambia Agricultural Commodity Exchange</td>
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<td>ZACA</td>
<td>Zambia Agricultural Commodity Agency Ltd.</td>
</tr>
<tr>
<td>ZIMACE</td>
<td>Zimbabwe Agricultural Commodity Exchange</td>
</tr>
<tr>
<td>ZNFU</td>
<td>Zambia National Farmers Union</td>
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SUMMARY

Introduction

The report is the result of a review of warehouse receipting, inventory credit and similar initiatives in six countries of Eastern and Southern Africa, including Zambia, Malawi, Madagascar, Tanzania, Kenya and Uganda, the objective of which is to share lessons with practitioners, policy makers and funding agencies. Warehouse receipting is normally part of a package of innovations designed to modernise, and enhance the efficiency of, agricultural marketing systems. It can play a very important role in the development of agriculture, by permitting farmers to hold food back to the lean season, allowing them to access markets on more equitable terms, and enhancing the efficiency of the entire commodity chain. Donors are supporting warehouse receipt initiatives of one kind or another in all six countries.

The report starts with a review of international experience and follows with a discussion of collateral management and other warehousing systems that have developed spontaneously in Africa. The remainder of the report mainly focuses on new departures going beyond these activities. Each country’s experience is discussed in turn under three major categories: 1. public warehousing, 2. private warehousing, and 3. farmer-focused approaches. The first two of these categories (public and private warehousing) are called “commercial approaches”, to distinguish them from farmer-focused approaches. The first and third categories (public and farmer-focused approaches), are further subdivided, making a total of eight different approaches – see footnote 1.

Observations on the different approaches

Category 1: Public warehousing

This term does not imply public ownership, but refers to a situation where a company stores goods on behalf of the public in general, on behalf of whosoever wishes to deposit in the warehouse, and issues to the respective depositors warehouse receipts that can be used for trading purposes (as documents of title), or as collateral for raising finance. Farmers are often the leading users of this service, but they are open to deposits by all-comers, including traders, millers, public agencies and others.

Public warehouses have for long operated in ports, but it is only since the 1990s that they have been used for bulking agricultural commodities in supply chains. They are most evident in the coffee and cashew export industries of Tanzania, in the case of coffee aided by trust in a pre-existing institutional structure, and in the case of cashew resulting from a Government initiative which combines warehousing with the reestablishment of a cooperative primary procurement monopsony. Combined annual lending in these two industries is in excess of US$ 50 million. As far as could be ascertained, the cashew system has so far improved

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1 Category 1 (public warehousing) is divided into four approaches: (1.A) unregulated independent ‘elevators’; (1.B) warehouses regulated by the State; (1.C) warehouse regulated by a trade body, and; (1.D) bulking by private trade intermediaries. Category 3 (farmer-focused approaches) is divided into: (3.A) cooperative approaches, supported by bank lending; (3.B) microfinance-linked approaches, and; (3.C) technological improvements in rural storage
producer prices for raw nuts, but it has issues calling for more in-depth study, monitoring and evaluation.

Public warehousing has developed much more slowly in the grain sector, because of the difficult policy environment with politically-sensitive food crops. A few large trading companies are seeking to provide their own warehousing services on an unregulated basis (we call this Approach 1.A). Zambia, Tanzania, Kenya and Uganda are all attempting to establish regulatory frameworks so as to provide a framework of confidence among depositors and bankers (Approaches 1.B and 1.C). Systems regulated by trade bodies (Approach 1.C), and notably the Eastern African Grain Council (EAGC), probably have the best prospects for success given the broad base of this membership organisation, and consequently its relative insulation from day-to-day political pressures. EAGC has so far only certified warehouses in Kenya but this could evolve into a uniform system covering a large part of Africa.

In Zambia prospects for a regulated system rest with the Zambian Agricultural Commodity Exchange (ZAMACE), which has the most active trading floor in the countries visited, and is in the process of establishing exchange-linked warehouses where smallholders can deposit grains they wish to sell. Uganda has launched a regulated system involving the use of electronic warehouse receipts (eWRS) which have so far been well received by farmers, and even more so by bankers. East African banks have been reluctant to fund against grain warehouse receipts, but recent developments in Kenya and Uganda suggest that this is changing; the adoption of electronic documentation may provide further encouragement. An important factor in both Uganda and Zambia is the involvement of the World Food Programme through the Purchase for Progress (P4P) programme, which is a leading commodity buyer and in the case of Zambia is seeking to procure all its supplies through ZAMACE.

In Malawi, the policy framework does not currently favour the establishment of a regulatory framework, but there is an initiative to develop bulking by private trade intermediaries (Approach 1.D), which will provide the opportunity for farmers to store, and might evolve into a regulated system. However certain aspects remain to be clarified and it will need monitoring over several years.

**Category 2: Private warehousing**

Unlike the case with public warehousing, private warehouses have no obligation to receive deposits from the public. The service is provided by collateral management companies, freight forwarders and others holding stock for third parties, and these currently account for most warehousing activity in Africa north of the Limpopo. Internationally speaking, collateral management is going through a difficult time, with fraud cases impacting adversely on the provision of re-insurance cover, and a number of providers dropping out of the business. The situation creates difficulties for local companies that cannot raise capital on the international market, and must therefore rely on the collateral managers.

Regulatory bodies in Kenya and Uganda are now considering certifying grain trading and processing companies that wish to issue warehouse receipts only against their own stock. This can enhance sectoral efficiency but will be demanding of regulatory capabilities.

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2 International and local inspection companies are leading providers of this service - see Chapter 3
Category 3: Farmer-focused approaches

These are approaches involving the storage and financing of commodities deposited (more or less exclusively) by farmers, as opposed to other players in the commodity chain, with the objective of supplying local food needs in rural areas or bulking product prior to marketing.

This is sometimes undertaken through marketing cooperatives (Approach 3.A). Large and/or multi-tiered cooperative marketing structures sometimes do not have a very good record, but there is some evidence that primary societies or groups can work effectively in bulking goods for marketing through public warehouses.

An alternative approach involves rural storage financed by a local micro-finance institution (MFI) – Approach 3.B. A highly successful experience in Madagascar suggests that this can work well where the local MFI is integrated into a structured microfinance (MF) network that can provide necessary management and financial support. Starting in 1993, farmers now use the system to annually store about 55,000 tonnes of paddy, most of it in small lots of a few tonnes each. There have been important knock-on effects on the health of the MF networks and the rural economy. However the system has had little impact with other crops, due to difficulties with storage and less predictable price pattern. Moreover, its system of ‘identity-preserved’ storage and individual marketing may prove inefficient when farmers need to market large surpluses. Since 2005, MF-linked approaches have gained a foothold with paddy in Tanzania, with upwards of 10,000 tonnes being stored by farmers per year, but have failed with maize, mainly on account of uncertainty with a crop subject to largely unpredictable Government intervention.

Technological improvements in farm-level storage (Approach 3.C) are a natural complement to financial approaches, appropriate in countries like Malawi where intensified maize production results in storage of pest-susceptible varieties and encourages early disposal. There is a need to revisit this area and explore the scope for relatively trouble-free hermetic storage structures.

Policy conclusions and recommendations

Commercial level warehousing (Categories 1 and 2)

Warehousing is of greatest importance to the region’s development, and its current situation calls for improvements in availability, quality and enabling policy framework. Both public and private warehousing deserve to be encouraged, though the public approach tends to be more inclusive of smaller depositors. However, as noted in the case of Tanzania, it is possible for collateral managers to provide ‘private’ services to producers or producer organisations under ‘field warehousing’ arrangements. The following steps will, in general terms accelerate the uptake of commercial approaches:

- for Governments to: (a) develop platforms that place greater emphasis on self-help at all levels, within a framework of safety nets (e.g. Food Reserve Agencies) and where the intervention is governed by known rules, and; (b) develop policies favourable to the to the emergence of warehouse receipting systems and related market institutions, consulting accordingly with local promoters.
- to strengthen the provision of collateral management services, through training and standards development
• to prioritise above all else the emergence of a cadre of competent warehouse operators, while applying pragmatism in the pursuit of social objectives

• to develop regulated systems where conditions are favourable, i.e. where the regulatory service can be highly focused and professional, and the economics are favourable

• to encourage spontaneous moves by companies seeking to provide public warehousing or ‘field warehousing’ services

• to prioritise the testing and roll-out of electronic warehouse receipt systems, in the light of the record in South Africa and Uganda, as a key step in improving security, motivating stakeholders (particularly banks) and facilitating the use of negotiable warehouse receipts

• to develop public sector procurement of goods held on warehouse receipts, building on a start made by WFP

• for donors to work together in implementing an agreed and consistent approach, in recognition of their major role in WRS and related initiatives

Some countries may also wish to follow Tanzania’s example, of first establishing the WRS for export crops, with a view to eventually focusing on more politically sensitive food crops (if and when policies are more favourable)

**Farmer-focused approaches (Category 3)**

Improvements in the policy framework will similarly increase the effectiveness of these initiatives, and notably in the area of microfinance.

Structured microfinance networks, which may or may not be linked to farmer associations, can play an important role in agricultural development, and in Madagascar have had considerable success financing seasonal storage by farmers. Regulatory agencies in Eastern and Southern Africa should facilitate the establishment of such networks in their countries. MF and rural marketing specialists in these countries should assess whether and how they can adapt this storage credit system to their own circumstances. There is a need to monitor the implementation of progress with microfinance-linked and cooperative approaches particularly in Tanzania.

It is worth helping farmers increase their role in crop storage. There is a need to re-evaluate the level of storage losses at farm level, and the efficacy of different approaches to their reduction, including the use of hermetic structures.

**Specific proposals**

**Proposals for commercial-level WRS**

Priority should be given to countries with prospects for developing or establishing the WRS in the near future, i.e. Tanzania, Kenya, Uganda and Zambia, as follows:

• In Tanzania, cash crops should be the main focus, building on the considerable progress to date. The priorities should be to: (a) review progress with cashew, coffee and cotton in greater detail than has been possible in this study, comparing to alternative approaches (e.g. contract farming), and; (b) develop rigorous, efficient, and self-financing regulatory mechanisms.

• In Kenya: the EAGC-supported grain system should be the prime focus, given a more quality conscious and formalised market than in most countries, strong stakeholder
involvement in EAGC, its regional focus and (potentially) a buy-in from the parastatal NCPB.

In Uganda: the grains system should initially be the prime focus, given supportive Government policies, and scope for leveraging WFP’s large-scale procurement. An explicit objective should be to fully test the eWRS, both for financing and delivery purposes.

In Zambia, the development of ZAMACE and associated warehousing activities should be the prime focus, given significant stakeholder involvement and a relatively quality-conscious and formalised market.

Country priorities, or the emphasis given to each, should change over time to reflect local developments. Of particular, but not exclusive, relevance to Malawi, there should be periodic ad hoc reviews of the progress of other commercial initiatives, notably of unregulated public warehouses (Approach 1.A), bulking by private intermediaries (Approach 1.D) and regulated private warehousing (Approach 2). It should also commission a review of WRS legal frameworks and regulations, with a view to highlighting the pros and cons of existing arrangements, and proposing one or more standard models for Common-Law countries of Africa.

**Specific proposals for donors and food aid agencies**

Relevant donors should hold annual meetings to up-date themselves on progress and coordinate their approaches. Food aid agencies should continue engaging with promoters of WRS and associated market institutions with a view to developing mutually beneficial relationships and helping P4P in its ultimate intention of connecting farmers to other local and regional food markets. If there is scope for collaboration, the partners (food aid agency + WRS/exchange promoters) should form cohesive joint working groups with shared objectives, and work according to the following principles:

- **WFP** should focus on **procurement terms**, as its main tool for bringing forth the required supply, tailoring rules to facilitate the new procurement systems.
- Warehouse regulatory agencies should mainly focus on core functions of ensuring the compliance of warehouse operators, achievement of product standards etc.
- Rural development (supply side) aspects, including building of warehouses, should mainly be left to others, i.e. individuals, firms and rural development projects, with appropriate mentoring.
- When working with market institutions, WFP should “go in hard” and focus on volume, taking account of economies of scale involved. This will usually mean procuring from all-comers, combining its P4P and regular resources together in a single strategy\(^3\)
- Food aid agencies procuring grain should pay locational premiums or discounts, based on the cost of shipping the commodities to the place where they will ultimately be consumed.
- WFP should make advance offers, to procure grains through warehouses that comply to given regulatory standards, thereby encouraging more prospective warehouse operators to become compliant, and

\(^3\) Depending on local circumstances, a certain percentage of regular resources may be combined with P4P in this way, and increased as the system takes root.
where feasible, food aid agencies should divest themselves of warehouses and auction facilities in favour of local operators and institutions (this also applies to USAID-Food for Peace).

Specific recommendations for farmer-focused approaches

• Governments in the region should prioritise the integration of SACCOS into well-managed rural MF networks
• MF and rural marketing specialists should assess whether and how they can adapt Malagasy approaches to rural microfinance and inventory credit to their own circumstances.
• There should be periodic reviews of progress and issues with MF-linked and cooperative approaches with grains in Tanzania, and ‘bulking by trade intermediaries’ in Malawi and Zambia. In the case of Tanzania, there should also be reviews of farmer linkages to coffee warehouses. There should be a study to re-evaluate of storage losses in staple crop at farm level, and financial losses through circuitous marketing in some countries, notably Malawi and the efficacy of different approaches to their reduction, including the use of hermetic structures
• Organisations promoting such storage hardware (e.g. FAO) should review their marketing approaches (as discussed in the sub-annex to Annex 2)

A training programme for practitioners

UNCTAD should also support a training programme for practitioners, giving serious consideration to one which EAGC is in the process of developing. It will cover a range of ‘modern market institutions’ (i.e. contracts and arbitration, warehouse operation and collateral management, commodity handling and grading, warehouse receipting, warehouse regulation, exchanges, clearing and settlement), and be implemented at three levels: Development of training materials; training and certification of trainers, and grants for in-country organisations to hire trainers.
CHAPTER 1: INTRODUCTION

Purpose and activities

This report on the development of supply chain finance in Eastern and Southern Africa focuses mainly on warehouse receipt and inventory credit systems for durable agricultural commodities. It was commissioned by UNCTAD under the auspices of the EU-funded All ACP Agricultural Commodities Programme (AAACP).

The consultant was to review present and past initiatives in this area and thereby seek to draw lessons about best practice. This included identifying countries and projects with prospects for early take-off, based on progress to date, stakeholder commitment and other factors, and to propose specific technical support activities, including training packages for various stakeholders and local implementation work.

To complete these tasks he carried out extensive desk research in the UK and six weeks of fieldwork covering six countries (Tanzania, Kenya, Uganda, Madagascar, Zambia and Malawi), meeting with banks, microfinance institutions, government departments, food reserve agencies, agribusiness, development projects, producers’ organisations, and others. Time spent in each country varied according to information requirements. He also made a one-day visit to Pretoria, South Africa, where he held a half day meeting with grain industry players who had interests in and/or were knowledgeable about developments in the above-mentioned countries. Annex 1 shows the persons and organisations contacted.

Authors’ general approach

Africa has seen a number of publicly-sponsored warehouse receipt and inventory credit initiatives over the last two decades, and an increasing effort since 2000. Looking at South and East Africa, the author tries to answer some of the main questions arising from this effort, i.e. is the effort justified? What has been achieved? Why hasn’t the system taken off in a bigger way? Where the best opportunities for are take-off, and what should be done to bring it about?

Warehouse receipts are of use both in financing against stocks of goods and trading in them, and may initially be adopted for one or other purpose. Rather than focus exclusively on one particular function, the author considers the overall viability of the instrument and the factors impinging on its adoption. A wide range of factors is considered including matters of public policy, leadership, governance, law, demand, prior trading practice, scale of operation, and project implementation. Through the examination of the six country cases and other sources, the author tries to identify where promoters of warehouse receipt systems can best orient their efforts.

A note on terms: transferability and negotiability of warehouse receipts

These two terms are often used interchangeably, but have different meanings. A warehouse receipt that is ‘transferable’ can simply be transferred to another party, for example in exchange for a loan. A warehouse receipt is ‘negotiable’ when it confers upon the transferee a direct interest in the underlying property free of any outstanding claims not noted on the
receipt itself (e.g. outstanding storage charges). The holder of the warehouse receipt is entitled to the good described in it, whatever the depositor or the warehouse operator has done with the goods in the meantime. A negotiable warehouse receipt is in effect a document of title to the underlying goods. By contrast the rights of the transferee of a non-negotiable receipt will only be equivalent to the rights of the transferor, and can more easily be defeated by other claimants. The difference in the terms is explained at greater length in Coulter and Shepherd (1995, Annex 2).

This is sometimes a grey area. In some cases a transferable warehouse receipt has been designed to have all the properties of a negotiable instrument, but the laws and legal practice in the country concerned do not treat it as such, or there may not have been sufficient case history for it to be asserted as negotiable with complete confidence. The author has used the term ‘transferable’ in this sense, to indicate a document that is designed to become negotiable as a result of legislation and/or custom and practice.

**Why prioritise warehouse receipts?**

Warehouse receipts systems (WRS) are part of a framework of ‘modern market institutions’, that countries adopt in different combinations and permutations according to circumstances, to develop their agriculture and render markets more efficient and effective in delivering benefits to consumers and producers. There are various other such institutions including grading systems, contracting, alternative dispute settlement (usually through arbitration by trade peers), marketing cooperatives, contract farming, commodity exchanges, hedging devices (through exchanges or over-the-counter), and market information systems. Warehouse receipt systems can play a central role in developing the framework of modern market institutions, for the following reasons:

- They can provide surplus-producing farmers (including smallholders) with a market window which can help them secure the best possible deal, allowing them to deal directly with downstream buyers and financiers, and overcome asymmetric power relationships within the market chain. Smallholder farmers are typically isolated from markets, have limited selling alternatives, lack contact with downstream buyers, are unable to enter into contractual relationships (due to lack of trust), are usually obliged to accept the buyer’s assessment of weight/volume and quality and, find it difficult to hold the crop for better prices. Farmers (or groups of farmers) can overcome these constraints by depositing their crops in a warehouse that dries, cleans and grades them according to established standards, and holds them until they wish to sell. Of equal importance is the warehouse’s service as guarantor, i.e. acting as collateral manager for any lender who wishes to finance the farmer against the security of the warehouse receipt, and guaranteeing delivery of the goods against the farmer’s contractual commitments. The warehouse operator uses its own commercial and financial standing to enhance the farmer’s own standing with bankers and commercial counterparties. The warehouse may be linked to a commodity exchange through which the farmer can sell the goods. Alternatively, the farmer may sell privately or make use of a simple escrow-based settlement mechanism to ensure that he (along with the bank and warehouse operator) gets paid before the goods are removed from the warehouse.

- As implied in the previous paragraph, the WRS provides a platform for the introduction of other institutional innovations, notably grading, contracting and exchange trading. It is difficult to introduce grading systems into markets where most grain is traded informally
and ungraded, due to a chicken-and-egg situation where buyers don’t look for graded produce because it is unavailable, while farmers don’t grade because of the lack of a price premium. By grading commodities on arrival at warehouses, it is possible to overcome this problem. Likewise it is difficult to establish trading floors in countries where production is dominated by smallholder farmers; all attempts to establish such floors in Africa (on a voluntary basis) have so far failed. This is mainly due to ‘performance failure’, i.e. suppliers defaulting on contracts, particularly in rising markets. However, the exchange can link up with warehouses which it holds responsible for ensuring delivery of goods held in their custody.

- A well developed WRS can provide a focus for development of the entire commodity chain, providing incentives for a range of different parties, including farmers, financiers, traders, processors, public sector buyers, food aid managers and investors in storage capacity. This is illustrated in Figure 1.

- Last but not least, the WRS can help farmers store more food for their local consumption requirements. Africa abounds with stories of farmers ‘overselling’ crops, which are shipped out to urban centres, only to be shipped back as either grain or meal, and at much higher prices in the lean season. There is a lack of up-to-date quantitative information on this phenomenon that sometimes lends itself to exaggeration, but it is clearly of some significance. A study by Jayne and Chisvo (1991) documented it in the case of Zimbabwe. Better storage facilities and localized warehouse receipting can help farmers hold back more crops, avoid circuitous transport and better assure their local food security.

However, as this report will show, difficulties stemming from the policy and institutional framework often make the introduction of WRS a difficult undertaking, particularly with politically sensitive grain crops. Indeed the main reason for persisting in this area is a dearth alternative strategies through which to improve the performance of agricultural markets and their contribution to the productivity of agriculture.

**Figure 1: parties with incentives to participate in WRS**
Report layout

The report starts with a short review of international experience with warehouse receipts and follows with a discussion of collateral management and other warehousing systems that have developed spontaneously in Africa, particularly around ports.

The remainder of the report focuses on new departures going beyond these activities, starting with sections on each of the six targeted countries’ experience. The next section builds on this to identify a series of different ‘Approaches’ to the development of WRS and discusses their pros and cons, while the last section contains conclusions and recommendations.

Annexes 2 to 5 provide more detailed information on four of the countries (Zambia, Malawi, Madagascar and Tanzania), Annex 6 examines the role of local and regional procurement (LRP) of food aid commodities in developing WRS and other ‘modern market institutions’, and Annex 7 provides answers to questions about warehouse receipts, including items in the terms of reference that have not been answered elsewhere.
CHAPTER 2: REVIEW OF INTERNATIONAL EXPERIENCE

United States

While warehouse receipts have been used since Mesopotamian civilisation, it is the opening up the American Mid-West that most stimulated the widespread use of this instrument in the modern world. The clearing and planting of the prairies, and the development of steam navigation and railways, stimulated a massive flow of grain from this region to the East Coast and eventually to Europe, and the invention of the telegraph speeded communications to an even greater degree. Chicago was at the centre of all this, and between 1830 and 1850 changed from a fur trading village to a commodity-trading metropolis. Entrepreneurs built steam-powered ‘elevators’, multi-storey buildings to receive farmers’ and other suppliers’ grain, and store it in bulk, prior to sale and onward shipment, and issued tradable warehouse receipts against the stock. The Chicago Board of Trade (CBOT) emerged as a commodity trading floor, and grading systems soon had to be established to reward better grain quality. From the late 1860s, the State of Illinois was legislating to regulate elevators, notably over grades, the publication of statistics and to prevent them issuing receipts for stock they did not hold (source: Cronon, 1992).

Futures trading started as a means of assuring East Coast buyers a price in advance of the arrival of the physical grain, and soon emerged as the dominant activity on CBOT. It attracted financiers and speculators and greatly oiled the wheels of the marketing chain. However it was periodically the object of speculative manipulation, and this threatened the credibility of the system and increasingly drew regulatory attention.

Companies and entrepreneurs progressively built grain elevators throughout the breadth of the grain producing States, and became farmers’ normal market outlet. In the late 19th century cooperatives started investing in their own elevators, strengthening farmers negotiating power vis-à-vis large-scale corporate operators. The CBOT became the barometer which elevators used to price grain purchases, using a range of different contract types, including spot, cash forward, delayed price and minimum price contracts, with their positions often hedged on CBOT.

The whole system, covering agricultural warehousing, grades and standards and commodity exchanges, was brought under a Federal regulatory regime during the second decade of the 20th Century. An important factor motivating this change was difficult in trading across the borders of States whose standards varied from one state to another; hence a voluntary system was introduced whereby warehouse could choose whether or not to be registered at Federal level. Moreover farmers storing in elevators were not protected from unregistered operators, there being no comprehensive system of registration, licensing or regulation. Lastly, there was a severe shortage of credit since farmers had received their land entitlement yet did not have the funds to develop their farmers.

The combination of the US Warehousing Act of 1916 and related State Acts have created a regulatory regime which is to all intents and purposes mandatory, as elevators find they must get licensed by the Federal authorities or by State governments. There are consequently thousands of locations where farmers may deposit agricultural commodities in return for a
negotiable warehouse receipt\(^4\), which can be used to raise finance or trade the commodity. Of at least equal significance were the steps taken by American monetary authorities, which eventually became the Federal Reserve Bank (created in 1913). These established a special discount window for ‘eligible bankers’ acceptances’ backed by warehouse receipts, making them a very liquid instrument (see Box 1).

**BOX 1: THE FED’S DISCOUNT WINDOW FOR ELIGIBLE BANKERS’ ACCEPTANCES**

(contribution by Nick Budd, retired lawyer specialised in commodity financing)

The Federal Reserve Bank (‘the Fed’) announced that it would rediscount, at very fine rates (the rate also serving as an important instrument of monetary policy) bankers’ acceptances issued by US banks (no matter how small and rural) so long as they were “eligible.” To qualify, they had to: (a) be of limited duration (270 days or less), (b) have a maturity approximating the normal period of liquidation of the underlying asset (i.e. match the anticipated storage and resale period), (c) be backed by a warehouse receipt (negotiable or non-negotiable) issued to the bank (but only at the time of acceptance), (d) cover regularly marketable staple commodities (to insure some kind of market valuation and liquidity), and (e) be insured against fire, theft, flood, etc. The small rural banker would gather up these documents, get the farmer to sign a draft payable in, say, 270 days, write “accepted” on the back, and send it to a money center bank, which would discount it and send the funds to the local bank which would use the funds to discount the farmer's draft. When the goods were sold, the farmer repaid the local bank, and the local bank repaid the money center bank.

The Fed offered the further inducement that banks creating or discounting eligible banker's acceptances were exempt from the usual reserve requirements attached to such liabilities (in those days, up to 20%), and were also exempt from regulations limiting loans based upon capital and per-customer limitations. Federal regulations also authorized banks to accept field warehouse\(^5\) receipts as security for eligible acceptances where local (State) law recognized the validity of these receipts. By 1900 there were over 200 field warehousing companies and many thousands of separate field warehouses. This in turn induced farmers and merchants to invest in local storage without the need to become licensed warehousemen.

The eligible bankers’ acceptance market, based largely upon rural warehouse receipts and drafts signed by small farmers, rapidly became the key short term financing mechanism in the United States and offered a direct cash pipeline from the money centers to the smallest local banks. One could argue that this refinancing facility provided the oxygen which fuelled the rapid creation of agricultural credit, warehouse development, marketing systems, transport systems, insurance products, and warehouse law reform in the United States.

Licensed warehouses have to meet and maintain key criteria in terms of physical facilities, capital adequacy, liquidity, managerial qualities, insurance and bonding cover (the latter protects depositors against fraud and mismanagement). Some States have set up Indemnity Funds to which licensed warehouse operators must contribute, and this takes the place of the bond. Grain handling staff at the warehouses (weighers, samplers and graders) must also be licensed to carry on their activities, and commodities are graded to US standards. Warehouses are subject to unannounced visits by ‘examiners’ who are responsible for enforcing the law and who can literally suspend or revoke a warehouse license overnight. The

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\(^4\) As of 1998, there were almost 12,000 elevators in the US with a fixed storage capacity of 230 million tonnes; cooperatives owned about one third of them.

\(^5\) A warehousing service provided in the clients’ premises, normally to enable the client to obtain financing against stock held there
oversight system is funded by user fees assessed on the basis of the certified storage capacity of each warehouse and payments from the Commodity Credit Corporation (CCC). CCC is in effect a grain parastatal that the Federal Government uses for its complex system of price support to farmers. By making use of licensed elevators it avoids the need to invest Federal money in such structures.

The regulatory system improved the performance and widened the access of a warehouse receipts system which, up to the 1950s, played a critical role in financing and developing the family farm. The system is agriculturally focused, and needs-driven, i.e. many minor agricultural commodities are unregulated, but the authorities establish new commodity ‘programs’ when they perceive there is sufficient demand. With the ‘cotton program’, they license as warehouses the ginneries that toll-gin cotton for the farmers. Cotton warehouses were the first to adopt electronic warehouse receipts instead of paper documentation; they did this under a Federally-regulated system established in 1995, primarily with the aim on reducing costly paperwork and reducing handling errors.

**Latin America**

Similar needs emerged in the 19th Century in Argentina and Brazil’s agro-exporting economies. However the approach to warehouse regulation differed widely from the American model as, one by one, Latin American countries followed the typical approach of Civil Law counties of passing General Warehousing Acts regulated by Ministries of Trade or banking authorities. The Acts provided for the licensing of ‘General Warehousing Companies’ (Almacenes Generales de Déposito/Armazens Gerais) which, rather like giant pawnshops, would be free to store all sort of commodities (agricultural and non-agricultural) and issue depositors with warehouse receipts, in two parts, one a title document and the other a pledge certificate which the depositor can use to raise financing. Unlike the American elevators, they are not normally allowed to trade in commodities concerned as this is deemed to create unacceptable conflict of interest.

In some countries banks are the main owners of these entities. This is the case in Colombia where there are only five licensed General Warehousing Companies, four belonging to the banks and the other to the State. Each company has its own warehouses and silos, but the most profitable business is field-warehousing, i.e. providing warehousing services in the client’s premises to enable the client to access financing. Ownership by wealthy banks has prevented warehouse failure, and has reassured depositors that they would be protected from fraud. In some other Latin American countries, by contrast, depositors have suffered serious fraud-related losses.

In that year, the author reviewed the Brazilian regulated system in collaboration with researchers from the University of São Paulo (Coulter et al. 1998). General warehousing services were regulated by the Ministry of Industry, Trade and Tourism under an Act of 1903, and by 1997 there were approximately 6,400 registered grain warehouses with a static capacity of almost 60 million tonnes (Leão de Sousa and Marques, 1998). However, the quality of these warehouses’ services was poor with all agricultural commodities except coffee. Many warehousing companies had been formed hurriedly, with the main purpose of managing large Government intervention stocks, storage facilities were often poorly designed and public oversight arrangements were ineffective in the face of unprofessionally and sometimes fraudulent practices. The political influence of Brazilian warehouse owners made it very difficult to tighten up regulatory practices.
Grading systems lapsed, providing little incentive for farmers to supply quality grain. Moreover as grain production migrated to the centre-west of Brazil, encouraged by pan-territorial pricing policies, there was an orgy of subsidized investment loans for warehouse construction, leading to a surfeit of large flat bulk stores, often poorly located and without any provision for internal segregation needed to store grain by grade.

Reforms in the 1990s started to change the situation. Public procurement was reduced, and the warehousing sector had to look for private sector custom, but it was ill-placed to service it, and warehouse receipts lacked credibility with the banks. The legal requirement that warehouses have non-trading status and the fiscal regime also made it difficult for them to operate successfully without public-sector contracts. A study by Leão de Sousa and Marques (1998) noted that US elevators were operating on very narrow commercialisation margins, about 1.5%, and that the cost storage in Illinois was half that in Brazil, a difference which they attributed to the elevators’ being able to combine warehousing with trading roles, differences in the fiscal regime and the high level of competition between North American elevators. By 1998, there was widespread appreciation among official and stakeholders of the need to reform the industry, and more recent information suggests that the country has made progress down this path.

The credibility of the Colombian warehousing system, as of that in neighbouring Venezuela, allowed those countries’ respective commodity exchanges to market a system of REPOs, or repurchase contracts, backed by warehouse receipts⁶. The REPO is a warehouse receipt-backed security that an owner of warehoused stock can sell to institutional investors like pension funds through the exchange trading mechanism, with a commitment to repurchase it on maturity (60, 90 days etc.). In Colombia, it is the commodity exchange’s clearing house that underwrites the transaction, and same is probably the case in Venezuela. The instrument has proved attractive to sellers because it allows them to access funds at rates close to Treasury Bills, and much lower than the rates on normal bank loans.

**Eastern Europe and Former Soviet Union**

Since the end of the 80s, a variety of approaches have been used to collateralise stock for lending purposes, including bank surveillance using Soviet era documentation, employment of collateral managers, field warehousing and regulated systems. There has been considerable outside support for the development of WRS from the European Bank for Reconstruction and Development (EBRD), USAID, CFC and others, much of it to establish licensing regimes along North American lines. A recent FAO report (Höllinger et al., 2009) shows that in 12 countries which have sought to develop WRS, the system is most fully developed in three: Hungary, Bulgaria and Kazakhstan. All of these countries have special WR laws for grains rather than broad legislation encompassing various commodities and different commercial practices. The Hungarian system consists of three very large and well capitalised warehousing companies carrying out a lot of field warehousing, and with similarities to the above-mentioned Colombian system, while Bulgaria and Kazakhstan are closer to American practice. Both these countries have established well-structured and efficient government regulatory agencies and indemnity funds.

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⁶ This should not be confused with REPO financing described elsewhere in this report, i.e. alternative system of bank financing to get round problems of defective title in warehouse receipts
Where implementation has failed or only been partial, this is attributed to missing initial consensus among government institutions, donors and the private sector about the key priorities and essential components. In some countries, e.g. Poland and Slovakia, Government intervention was maintained at a high level so that farmers were not interested in storing with warehouse receipts. In the Ukraine, there have been inconsistencies in legislation, and weaknesses in the licensing process leading to a lack of trust in the same. In contrast to the South African case (see below), there has been very limited trading of WRs on secondary markets, attributed in part to the immature character of commodity exchanges and taxation regimes which discourage transfer between successive holders.

The FAO report describes the typical donor approach as being “very top-heavy”, focusing on changes at the central level rather than working with local banks bottom-up to develop pragmatic WRS schemes. It ends with a comment that: “Although it is essential to introduce all the core components of a WRS to ensure its proper functioning, care should be taken to avoid blueprints and allow for sufficient time for adjustments and consensus building”.

The Bulgarian system is very well developed with 47 licensed public warehouses and over 500,000 tonnes of licensed capacity. Its experience highlights the importance of winning over the banks, it being observed that: (a) once they had developed expertise in WR lending and established efficient internal procedures, the mechanism became quite simple with comparatively low administrative costs, and; (b) lending rates fell from 16% at the beginning of the programme when only two banks were lending to 7-8% in 2008 when 10 banks were in competition.

South Africa

South Africa’s grain production (around 12 million tonnes) is dominated by about 30,000 large-scale commercial farmers, who until the early 90s received state support within the framework of a State-controlled marketing system. The new ANC Government liberalised the trade in grains and abolished commodity boards, but at the same time encouraged the private sector to develop alternative institutional structure to support the trade. A range of needs had to be addressed including market information, systems for resolving trade disputes, systems of trade financing, grain pricing and the management of price risks.

These needs were addressed through various institutional devices, starting with the upgrading of the information service (SAGIS), the issue silo certificates (SCs) and the establishment of future and options contracts for white and yellow maize, wheat, soybean and sunflower on the South African Futures Exchange (SAFEX) – which later became part of Johannesburg Stock Exchange. Cooperative storage complexes started issuing farmers with negotiable SCs, indicating location quantity, grade, to producers who deposited grain with them. The farmers could trade these or use them to raise bank financing.

South Africa has no WR Act (the Act of 1930 was rescinded during the Apartheid era), so SCs are handled under contractual law. SAFEX provided some regulatory oversight for a large part of this system, approving about 160 silo sites as locations where farmers or others could deliver SCs against expiring contracts. The approval requirements were relatively undemanding compared to Federal and State licensing requirements in the USA, and silo owners were not required to post bonds or contribute to an indemnity fund. The system is now being tightened up, and a new schedule of requirements is shortly to be issued.
BOX 2: SAFEX DIVISION OF JSE - MAIN REQUIREMENTS OF APPROVED SILO OWNERS, AS PLANNED IN AUGUST 2009 (tonnages in maize equivalent)

Must have:
• adequate experience and technical expertise + two years successful operational track record
• necessary equipment for bulk handling in all weather conditions
• at least 9,000 tonnes in-loading, storage and out-loading capacity, and minimum out-load rate of 500 tonnes/9 hour day, at each individual storage site. At least 10,000 tonnes or more average capacity at all silo sites operated by the owners.
• reliable road network and access

To annually provide SAFEX with a copy of the audited accounts

Net worth:  
R.20 million for capacity up to  60,000 tonnes  
R.40 million for capacity up to 100,000 tonnes  
R.60 million for capacity over  100,000 tonnes

If the silo owner has a single registered delivery point, it must additionally provide a performance guarantee equivalent to the current value of 10% of the total storage potential of the most commonly stored product. At its discretion, SAFEX may require other operators to provide additional guarantees.

Insurance cover of building, equipment and commodities for fire and allied risks, spontaneous combustion and explosion, terrorism, theft and public violence + fidelity cover for employees, as determined by JSE

Upon failure to deliver quantity and quality as per SC, the silo owner must pay cash settlement within 24 hours + 30% penalty

Conformity to JSE contract specifications + agreement not to conclude any concurrent storage agreements at odds with JSE’s rules or contract specifications

Diverse requirements re paper and electronic documentation

Non-discrimination between SC holders while in and out-loading commodities

To report disputes to JSE as soon as they occur; arbitrator to be appointed by JSE.

JSE reserves may appoint a collateral manager to manage the deregistration of a silo site, if due to mismanagement that comprises the owner’s ability to honour the SAFEX silo receipts issued

Note: this is paraphrased to the best of the author's ability; those seeking full and exact details should contact SAFEX

Silo operators either issue SCs in their own name, or issue the more widely-used SAFEX receipts. Producers may appoint brokers to sell their grains or sell independently on the open market. In such cases the benchmark price is usually the SAFEX price for the nearest month.

Where producers wish to defer sale, they can obtain finance against the SC. In such cases, the borrower must usually hedge against any downside price risks using futures and options traded on the exchange. As a result of the availability of price risk management instruments developed on the basis of the SC system, banks have been able to structure production finance, requiring borrowers to deposit their produce with certified silos. Their track record in deposits is used in determining their output, against which finance is provided. Buyers of SCs include processors, who may take delivery of the underlying commodity on presentation.
to the silo operator; or investors. The investors participate in the market primarily to make gains from anticipated price movements, but play a crucial role of making the market liquid and enabling risk sharing.

Starting in 2004, the two leading silo operators, accounting for 60% of grain handled in South Africa, commissioned a software company to develop a system of electronic silo certificates (ESCs). It is a “closed community” internet-based system to which users must sign up using a participant agreement, and use passwords to gain access. When a farmer or other player deposits grain in the warehouse, the warehouse operator creates the document which is validated and sits on a Johannesburg-based server. The holder can then enter the system and transfer to other parties as title to the underlying goods, or ‘in encumbrance’, i.e. as loan security. Holders of warehouse receipts, or their brokers, use the system to deliver on SAFEX contracts. The system also provides an on-line registry of warehouse receipts, as well as various types of information of use to participants, Government agencies and other parties, none of which is available with a conventional paper-based system.

The system first gained the support of banks which saw that it would greatly reduce costs of using paper documentation (the cost is minimal⁷), increase security, speed up handling, and create a clear audit trail of transactions. In an environment where time is money, it allowed banks to do business faster and lend out their money more quickly. It took some time to gain the support of the trading community which was concerned about the confidentiality of the data, but this was achieved by contracting out the management of the system to EXORDIA, a company owned by PriceWaterhouseCoopers (PWC), and various legal provisions to make the system watertight. Lastly an Administration Centre was established, including a telephone trading desk to help farmers who were not computer-literate⁸ use the system into which farmers phone and give instructions. The system has now been customised to Ugandan needs, as discussed below in the Uganda section, and is on offer to other African countries. Countries wishing to use it save considerable up-front costs, and are able to access a ready made and tested system including its full security features.

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⁷ Höllinger et al. (2009) comment that “most of the grains stored in South Africa pass through the system, at a cost that is a fraction of that of paper warehouse receipt systems or registries such as those set up in Ukraine

⁸ Most commercial farmers in South Africa are over 50, and their sons have by and large taken urban jobs, and this explains the significant level of computer illiteracy among them
Conclusions arising from the above

The above review is far from exhaustive, but a number of interesting observations emerge:

- **WRS has catalysed the development of commercial farming in North America, and permitted an effective transition from State control to liberalisation in South Africa. It will be more challenging to establish it in other African countries where smallholders are responsible for producing the bulk of agricultural surpluses. However, if successful the developmental impact may be greater, given the dearth of alternative collateral, such as mortgageable real estate.**

- **The North American regulated system has much to commend it, particularly its agricultural and commodity-specific focus, and licensing of companies trading the commodity concerned. It compares very favourably to the Civil Law system adopted in Latin America, making the warehousing service available to a wider public, reducing storage costs and assisting in the professionalization of the commodity chain players. Notwithstanding this, Latin America has re-engaged with its WRS over recent decades and is now a source of interesting innovations.**

- **The Brazilian experience up to the 1990s shows how populist politics can distort a warehousing system, resulting in ill-designed and miss-located warehouses, the abandonment of grading systems and unreliable storage services, the very antithesis of policy-makers’ original purpose with market institutions of this kind. It also shows that it is only worth introducing regulatory regimes where they can be strict, efficient and insulated from political pressures; if these preconditions cannot be met, it is better not to try.**

- **The establishment of a special discount window for loans backed by warehouse receipts can be an effective means of promoting WRs, though it is unclear how much difference it would make at present in African countries, given situations of surplus liquidity in the banking sector and constraints on the use of WRs discussed in this report.**

- **The introduction of the warehouse receipt system has for the most part gone hand in hand with the development of commodity exchanges, though there are some exceptions where exchanges have not been in place, e.g. Bulgaria and Kazakhstan. There is a high level of interdependence between these two innovations, with the warehouse receipts providing a mechanism for delivery against exchange contracts, and the exchange providing additional liquidity, plus a means of valuing the warehouse receipt and liquidating the underlying commodity.**

- **Electronic warehouse receipt systems (eWRS) are a key innovation with scope to radically reduce cost, increasing security, facilitate transactions and provide useful information to players – and the system is available ‘off the shelf’.**

- **Lastly, successful warehouse receipt systems are technical devices that farmers and others can use to take greater advantage of agricultural markets. They are not panaceas for the ills of those markets, or solutions to problems of rural poverty as such.**
CHAPTER 3: COLLATERAL MANAGEMENT AND RELATED WAREHOUSING IN AFRICA

For a long time, port warehousing companies and freight forwarders have been offering warehousing services without any regulatory authority oversight. Since the 1970s, inspection companies have become leading players in this field, taking advantage of opportunities created by liberalisation of African commodity trade. They are typically involved at the request of a bank that wishes to ensure the security of stock against which it is lending to clients. Sometimes however, and Madagascar and Ethiopia are cases in point, banks lend without the involvement of a collateral manager, and carry out surveillance themselves. These different arrangements (port warehouses, freight forwarders, collateral managers and direct surveillance) account for the majority of trade financing, where the stock serves as collateral, in the countries under study in this report.

At least until recently, most of the collateral management business has been handled by local subsidiaries of inspection companies headquartered in Europe, and include Société Générale de Surveillance (SGS), Bureau Veritas, Socotec, Audit Control and Expertise (ACE), Wakefield International Services Ltd., Cotecna and Baltic Control. ACE is now the leading operator in this field. An increasing proportion is being handled by African operators, such as Baltonic (Tanzania), Transsenne (Senegal) and Ecosafe Ghana Ltd. In Ghana, trade sources indicate that local companies now account for 60% of the market.

The inspection companies set up tripartite collateral management agreements (CMAs) involving a bank, the borrower and the collateral manager (i.e. the inspection company acting as warehouse operator), which allow depositors to secure bank credit. The warehouse receipts are normally issued directly to the financing bank and not to the depositor, and are not intended to be negotiable. Collateral management most often involves operating ‘field warehouses’; in this case the service provider takes over the warehouse of a client who wishes to raise credit, by leasing it for a nominal fee, and then takes responsibility for the control of commodities used as collateral.

International inspection companies have filled an important gap in service provision in most developing countries and in the transition economies of Eastern Europe. They enable local exporters and importers to obtain credit and thereby hold their own against growing competition from vertically integrated multinational commodity companies which source funds on international credit markets. In a liberalised marketing environment with significant performance and credit risks, they provide the confidence for banks to continue financing transactions, especially because their European-based parent companies have been able to negotiate professional liability cover that provides additional comfort for lenders.

However most of these European-based businesses are exiting the business, due to the high risks involved, leaving few active players. Like other operators, collateral managers

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9 Further information on this activity is provided in an article by Budd:
http://www.tfreview.com/xq/asp/sid.0/articleid.3A05A583.3D05-4664-8088-0DBD540ED3A4/eTitle.COVER STORY_COLLATERAL_MANAGEMENTSecurity in the middle/qx/display.htm
sometimes experience losses through fraud, resulting for example from collusion between their locally-hired staff, depositors and/or bank employees. In Africa, the values defrauded have on occasions been in the tens of millions of dollars. Some industry players attribute this to price competition in the industry causing players to cut their rates and not to invest sufficiently in their own capacity (for example, hurriedly hiring and training staff to meet upcoming storage contracts). Where losses do occur, collateral managers’ liability is sometimes seriously limited by clauses in the storage contracts.

The problem for these companies is that if they claim against their professional liability cover, this can seriously increase their insurance premiums. There are now reportedly only two or three international reinsurance companies prepared to provide the required cover.

It is difficult to obtain statistics on the volume of the collateral management business, but the volume of commodities handled is often substantial; for example “hundreds of thousand of tonnes of agricultural products held annually in Zambia” according to anecdotal information. However, apart from the problems described above there are some other limitations to the scope and benefits from the CMAs, as follows:

- The main users are relatively large operators by standards of Eastern and Southern Africa, companies that own or can rent entire warehouses or silos, and can afford fees costing upwards of US$ 1,500 per month + cost of warehouse, packing materials, physical handling and insurance which may be paid for separately by the client. Exceptionally, in Tanzanian village-based microfinance-linked initiatives, collateral managers are providing the basic service for as little as $900 per month.
- Collateral managers do not normally run public warehouses, where a number of different players can deposit modest amounts of merchandise (e.g. 30 to 300 tonnes of maize) that would not justify the expense of hiring a full warehouse and have it collaterally managed. This public warehousing function can be more easily provided by trading entities (privately or cooperatively owned) to which storage services provide additional revenue over and above that provided by their core trading activity. This is something that inspection companies cannot do, given the risk of compromising their neutrality in the service business.
- The WRs are non-negotiable and cannot be used as delivery instruments against contracts.

Given the importance of this activity and the problems associated with it, it is worth taking steps to raise the level of professionalism and the guarantees provided. This is particularly important as African owned companies try to fill the void left behind by the international inspection companies. We return to this in the next section.
CHAPTER 4: EASTERN & SOUTHERN AFRICA; MAIN FINDINGS BY COUNTRY

Zambia

Zambia is a landlocked country with abundant agricultural land, producing maize, cassava, wheat, soybeans, mixed beans and other crops. About 15% of maize, all wheat and most soybeans are accounted for by 900 large-scale commercial farmers. Even within the smallholder sector, production is heavily skewed towards the larger producers with about 2% of producers accounting for 50% of the marketed surplus.

Collateral management services have been widely used by leading traders and millers. A regulated warehouse receipt system was introduced (for grains) in 2001 under a project funded by the Common Fund for Commodities (CFC) and implemented by the Natural Resources Institute (NRI). Other donors subsequently provided co-funding, and continued supporting when CFC and NRI ceased their involvement in 2004.

The initiative was conceived as part of the efforts to establish market institutions to develop the grain trade following liberalisation which started in 1993. In practice, Government continued intervening in input markets and increasingly in output markets in a way which sometimes dampened incentives for private storage. While Government assisted the private sector with the leasing of Government-owned stores, it did not prioritise the development of ‘modern market institutions’ to facilitate private sector operations.

The project helped key stakeholder groups (notably farmers, bankers and food processors) establish a non-government regulatory institution, ZACA (Zambia Agricultural Commodities Agency Ltd.) and this certified companies to act as warehouse operators, take deposits from the public and issue transferable warehouse receipts against them. ZACA had a contractual relationship with the certified warehouses and was responsible for ensuring their compliance with regulatory requirements, and for setting and enforcing commodity standards used in the WRS.

The first substantial deposits (6,000 tonnes of maize) occurred in the 2003/04 season, but its most successful year was 2004/05 when the following was achieved:

- four certified warehouse operators (total capacity 105,000 tonnes)
- deposits of 65,038 tonnes of maize and 70 tonnes of groundnuts
- commercial farmers deposited most of this, but smallholder groups deposited at least 3,764 tonnes
- most stocks were financed by AFGRI (leading warehouse operator, using South African credit lines) and Barclays Bank, with some funding by Intermarket Discount House, Standard Chartered and Stanbic Bank
- repayment was 100% (as in the previous year)
- licensing and other fees put ZACA well on the path to breaking even

There were no deposits in 2005 (a deficit year) and 19,879 tonnes are reported to have been deposited in 2006. By this time ZACA was getting into serious management difficulties. In
2007, it was wound up and some of its staff and assets were transferred to the new Zambian Agricultural Commodity Exchange (ZAMACE), a private sector institution supported by USAID, which is in the process of establishing warehouses linked to its own operation.

The immediate cause of ZACA’s demise was mismanagement, leading to its insolvency, but the following underlying problems contributed to the organisation’s problems, i.e.:

- disabling policies (crowding out private storage activity)
- lack of progress with supportive legislation (seen as a major impediment by banks)
- lack of active involvement of some key stakeholder groups represented on the Board, and
- poorly focused donor support. During the latter stages, project support was heavily targeted at smallholder farmers while insufficient attention was devoted to other aspects vital to ZACA’s survival.

- some poor harvests

This is further discussed in Annex 2. Despite its demise, the initiative has demonstrated that such a system, properly structured and supported, is potentially viable, and moreover that farmers can use it to trade with large processors and obtain finance from leading international banks.

Prospects for the development of a regulated WRS now rest with ZAMACE. Leading Zambian-based trading companies make up the initial membership, but it is now opening up to new players, notably brokers without trading interest in the commodities handled, and it has the support of a USAID project. Since 2007, it has traded 35,800 tonnes of commodities, and registered and charged fees on members' off-exchange trades on an additional 16,630 tonnes). This is a small percentage of what it needs to comfortably break even (400,000 tonnes per annum), but this may grow with the support of WFP-Zambia which is carrying out its local and regional purchases (LRP) through the ZAMACE and other players. WFP has made considerable efforts to adapt its procurement rules to the new system. ZAMACE is also in the process of training and certifying a number of warehouse keepers who will be linked to the exchange and take deposits from smallholder farmers.

ZAMACE has certain other factors working in its favour: Zambia’s large-scale players on the farming and processing side (helpful in driving exchanges or WRS initiatives in their early stages), a Managing Director with a background in Zambia’s successful stock exchange, a cohesive team seeking to develop ZAMACE. However it also faces some challenges: teamwork might be stronger if the main farmers’ union (ZNFU) was more actively involved; it needs to secure stronger involvement of buyers other than WFP, and; certain aspects of public policy. Notwithstanding, Government has decided to push through the long awaited amendment to the Agricultural Credit Act, which will safeguard the warehouse receipt (WR) as a document of first title and hence encourage the financial institutions to participate in the WRS. It has also issued a policy statement in favour of ZAMACE; hopefully it will nominate ZAMACE as its agent responsible for licensing and inspecting agricultural warehouses under the Act, and in this way foster the development of a strong indigenous warehousing industry.  

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10 Significantly however, the draft amendment makes no provision for mandatory licensing of public warehouses, which may make it difficult for a prospective warehouse licensing authority from generating sufficient income to cover its costs.
Malawi

The main food crop is maize, followed by cassava, while cash crops include tobacco, tea, cotton, sugar cane, macadamia nuts and groundnuts. Due to food security concerns Government has been heavily subsidising inputs so that farmers can produce high yielding maize varieties, and this has caused a major increase in annual production, which now stands at around 3.3 million tonnes according to official figures, over 80% up in the last decade. However, some parties doubt the amount of increase and the cost-effectiveness of the approach adopted.

Government intervenes widely in the maize market through the operations of the parastatal enterprise ADMARC and the National Food Reserve Agency (NFRA), as well as through import and export restrictions, price controls and trading restrictions. The role of ADMARC is a recurring source of anxiety to donors, particularly the World Bank, concerned about its being required to fulfil wide ranging functions that make it being a major drain on the budget. The cost was particularly high in 2008.

At the same time trade controls and prohibitions have sometimes proved counterproductive, exacerbating rather than moderating domestic price instability, deterring private sector players from investment and developing longer-term trading relationships, and encouraging trade to develop, in as much as it can, through informal/illegal channels. Donors have encouraged Government down a different path through the use of ‘contingent contracting’, making use of ‘over-the-counter options’. There was a successful pilot in 2005, but the approach had to be abandoned in 2008, raising questions as to whether such complex technical operations can be institutionalised in a highly politically-charged environment of this kind.

Notwithstanding Government interventions, farmers and consumers face a reality of widely varying market prices, and there are frequent claims that farmers are overselling, resulting in costly reverse movements of grain in and out of rural areas. Overselling can be attributed to farmers’ cash constraints and the need to sell to avoid on-farm storage losses.

There is a plan to hive off ADMARC storage facilities to a warehousing company (MAWATCO), but with no agreement to date. A proposal to establish a pilot regulated WRS has not been implemented, though two large trading companies are seeking to provide warehouse receipting services on their own, with donor or public support. There are various other initiatives to enhance rural storage and local bulking of surpluses, involving hermetic storage technologies, storage by producer organisations (linked to microfinance or banks), and grain bulking by certified trade intermediaries. However these initiatives are either at the design or pilot stage, some aspects still need thinking through, and will need a lengthy time frame (5 years +) for thorough implementation and evaluation.11

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11 Malawi also has two incipient commodity exchanges, the Agricultural Commodity Exchange (ACE) for Africa and the Malawi Agricultural Commodity Exchange (MACE). ACE has an electronic trading floor, which has served as a model for ZAMACE, but trading volumes are currently rather low. MACE is presently concentrating on the provision of market information, like its Kenyan counterpart (KACE).
Given current policies, there does not seem to be a strong case for establishing a national regulated WRS\textsuperscript{12}, but it is worth pursuing some of the other (incipient) initiatives, and these may eventually provide the groundwork for a regulated system. UNCTAD or its AAACP partners should monitor and compare progress of selected initiatives over a period of five years, with a view to evaluating which works best in different parts of the market chain. The main projects would be:

- Home storage innovations, involving new hardware, or improved handling and pest-control procedures
- Grain bulking initiatives, such as those promoted by Opportunity International Bank of Malawi (OIBM) and USAID Grain Bulking Centres project, and
- Unregulated commercial-scale WRS: Farmers’ World, SENWES and/or others

These projects should be appraised in terms of various criteria, of which the most important are spontaneous adoption by paying users, cost-effectiveness and cost recovery.

**Madagascar**

Madagascar is an island of 18 million inhabitants, and rice is its dominant food crop. Annual paddy production reached 3.5 million tonnes by 2006, and it is produced by many millions of small farmers, the majority of whom do not produce enough for their own requirements. The country regularly imports 150-200,000 tonnes of milled rice to supplement domestic supplies, and the international market is therefore key to domestic price formation.

Despite widespread access to irrigation, agricultural productivity remains low and rural populations experience high levels of indebtedness. Conventional banking is unable to directly reach the dispersed farming population, and this has led to the development of mutual microfinance (MF) networks, notably the CECAM (Mutual Agricultural Savings and Credit) network which started in 1993. By 2008, it had 110,000 members grouped into 162 local branches and 9 regional unions. It is a credit-led system, into which soft loans are injected against member share capital, which serves as partial collateral, with a view to building the level of operations to a level where it can refinance itself with commercial banks. It has made major strides in this direction, but still needs donors to provide some funding and guarantees with the commercial banks.

There are five loan products, including storage loans, production loans, hire purchase, commercial loans and social emergency loans. The storage loan component has followed a growing trend and in 2008 nearly 40,000 tonnes of paddy per annum were stored, almost the entirety in around 7,000 small stores (usually rooms in domestic dwellings), under a ‘dual key’ arrangement (the total quantity stored by all MF networks is estimated at 55,000 tonnes). All products enjoy a high level of acceptance, and the storage loans which account for around 40% of the portfolio, are particularly successful, due to negligible default, and because they enhance the financial viability of the overall network, open the way to productivity-enhancing products, and facilitate repayment of production loans. Lending is almost entirely to individuals, as marketing/input supply cooperatives have largely failed in Madagascar.

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\textsuperscript{12} In this case feasibility is considered mainly in terms of one crop, maize. The volume of other non-perishable food crops is relatively small, which renders somewhat difficult the economics of establishing a regulated WRS without maize. According to FAO statistics, annual production of pulses is around 350,000 tonnes per annum, including pigeon peas (140,000 tonnes)
Although the CECAM network has received a lot of donor support over the past 15 years, it seems to have been designed with a built-in exit strategy. The approach of the CECAMs and some other networks is inspired by continental European models, where the local outlets (caisses) are simply branches of the Regional unions. The organisation has been carefully structured to balance:

(a) local knowledge (the preserve of elected members) with professionalism (using centrally appointed and trained staff), and;
(b) democracy, with strict management and financial control.

Given low educational levels, the pressures in wider society and the dependence on external funding, bringing about the balance between democracy and control is a challenging undertaking, which the network and its backers sought to achieve by establishing two apex organisations. One of these was purely elected while the other was a limited company representing the membership and various non-profit investors, including some from the French cooperative movement, and this latter company acted as the network’s bank and financial controller. This national elected leadership and the financial sector regulator (CSBF) have recently repudiated this arrangement, leading to disagreement with donors funding the CECAM network.

The system of storage credits has had a highly positive developmental impact in Madagascar, and it has certain advantages over other inventory credit/warehouse receipt approaches, notably that it is highly decentralised, it is self-regulating and low-cost. Its main limitations are that pest control is more difficult with commodities other than paddy and for which market price movements are less predictable (in Madagascar and in Tanzania –see below), its success depends on a highly structured type of MFI which hardly exists in the other countries visited, and that it is a challenging (though not impossible) task to maintain the required level of financial discipline.

**Tanzania**

**Background:** Tanzania has around 40 million inhabitants, and its main food crops are maize, cassava, rice and sugar cane, with 2007 production (according to FAO statistics) of 3.7, 6.6 1.3 million and 2.8 million tonnes respectively. The main cash crops are coffee, cashew nuts, tea, cotton and sisal.

Tanzania’s post-independence policies of Ujaama socialism gave it a State-controlled single-channel marketing system, consisting of primary cooperative societies, regional cooperative unions and parastatals, but between the mid 80s and 90s the single channel was gradually dismantled on account of the adverse impact on public finances, and pressure from the international financial institutions. Cooperatives were poorly prepared to compete with private competitors, often lacked the confidence of their membership, and only continued trading in certain crops, notably coffee. The Moshi Coffee Auction (MCA) was maintained as a mandatory requirement, though exemptions were later allowed so that speciality coffees could be sold directly to named importers (e.g. Starbucks) without passing through the auction.

In the grains sector, the monopsonist parastatal National Milling Corporation (NMC) gave way to a National Food Reserve Agency (NFRA) with a more restricted mandate of addressing food emergencies. As a member of the Eastern African Community the country
later signed up to an accord on free trade in food crops. In practice however, maize prices at both consumer (and sometimes producer) level remained a political sensitive issue, subject to considerable Government interventions, notably export bans\textsuperscript{13}. The bans were only partially effective\textsuperscript{14} but appear to have depressed producer prices in surplus-producing areas of Tanzania, most of which are located adjacent in the Southern Highlands, Kilimanjaro and Manyara regions, close to the borders with Malawi, Zambia, DRC and Kenya. The bans tend to disrupt natural trade flows and diminish farmers’ marketing options.

Tanzania’s financial sector has also undergone policy and regulatory reform, affecting both the commercial banks and the microfinance sector. Government came out strongly in support of the revival and strengthening of Savings and Credit Cooperative Societies (SACCOS), of which there are now around 5,000 with 800,000 members. These are the leading MF institutions in rural areas, but they had been tainted by past politicisation and mismanagement. The banking sector is in a situation of considerable surplus liquidity and has increasingly turned its attention towards low income households, with one of them (CRDB) developing a new business model in partnership with some 400 SACCOS.

Most rural SACCOS are very small, weak and lacking in full-time staff and administrative capacity, and they are of questionable sustainability (Triodos Facet, 2007). Regulatory arrangements remain ineffective (despite policy reforms), and they are moreover a major target of the National Economic Empowerment and Job Creation Programme, which advances public money to SACCOS, Tz 1 billion (about $770,000) to each of Tanzania’s 21 Regions in its original formulation. Some observers perceive this programme as further debilitating an already weak movement\textsuperscript{15}. A possible means of strengthening SACCOS is to encourage them to form integrated networks (such as Dunduliza and USAWA) which provide continuous external monitoring and support, including specialist services like liquidity management, insurance and auditing, but public policy does not appear to be highly supportive of this.

**Trade-financing initiatives:** Tanzania has passed a Warehouse Receipts Act (2005) and Warehouse Regulations (2006), and has designated a Licensing Board in the Ministry of Industry, Trade and Marketing, which is receiving technical support from the Common Fund for Commodities (CFC). This has registered some 20 warehouses (12 for cashew, 5 for coffee, 2 for cotton and 2 for paddy rice), and plans to establish a fully-fledged licensing regime. Board staff has played a major role in the organisation of the warehouse receipts system for cashew and cotton, but have so far had very limited involvement with grain warehouses.

The WRS has taken off with coffee since the latter 90s and 25% - 30% of the country’s exports are reported to pass through the system, much of it supplied by POs (farmer business groups, primary cooperative societies etc.) that bulk on behalf of their members. Parchment coffee is deposited for processing in designated warehouses (usually coffee curing

\textsuperscript{13} Some parties believe that the interests of major traders also influences Government interventions, but have not provided any evidence for this.

\textsuperscript{14} Between January and May of 2009, the RATIN trade information service recorded informal exports of maize from Tanzania to Kenya of 44,970 tonnes, approximately half the volume coming from Uganda which had an open borders policy.

\textsuperscript{15} One commentator put it thus: “the politicisation of SACCOS and the introduction of cheap government money in these MFIs have left them very vulnerable to mismanagement and fraud”. Triodos-Facet (2007, p6) provides information on this programme.
companies), who hold the processed (green) coffee until sale through the Moshi Coffee Auction (MCA). The warehouses issue WRs which the depositors may use to raise finance.

According to Onumah and Temu (2008), during the 2005/06 marketing season, three banks provided a total of US$11.8 million in inventory finance against coffee stocks; private traders accessed $6.7 million, rural cooperative societies $3.8 and cooperative unions $1.3 million. Significantly, the cooperatives were using this loan facility three times as much as the cooperative unions to which they belonged. Direct selling appeared to be proving more profitable to the cooperatives, and to helping them hold their own in face of competition from private traders. Other POs called ‘farmer business groups’ have now emerged as major users of the system in Southern Tanzania. Appendix 5 contains further details of coffee warehouses.

Warehousing of cashew emerged from an initiative in Mtwara region, in 2007, with the objective of enhancing the efficiency of the primary marketing system for raw cashew nuts. Government was concerned that market liberalisation had not delivered on its promise, that the market was not transparent, and that buyers’ agents were paying derisory prices for the raw nuts. The new system is a combination of the WRS, government minimum pricing and an officially-sanctioned cooperative procurement monopsony, involving the same PS and regional cooperative unions that operated prior to liberalisation, such that the exporters and local processors are not allowed to send their buyers into the field. The cooperatives deliver raw cashews to designated warehouses where they are sampled and auctioned to the interested exporters and local processors. Banks provide the PS with funding against WRs issued by designated warehouses, over US$ 45 million\(^\text{16}\) in 2007/08.

As far as could be ascertained during a short visit, the system had been successful in raising prices to farmers, though part of the increase was permitted by favourable world prices in 2007/08. One downside is that it has halted the establishment of outgrower schemes linking buyers and farmers, and which help the latter raise productivity and improve nut quality. The politically-sensitive system of minimum pricing does not sit well with a WRS which seeks to be market-driven, and in 2008/09 this resulted in a costly stand-off with buyers. There are also concerns that the new system will empower elements with good links to Government, i.e. cooperatives, and particularly unions which had become largely discredited, and warehouse owners who have benefited from privatisation, to the detriment of farmers. A procurement monopsony does not have much incentive to work efficiently. There is some awareness of the risk in Government circles.

WRS has been practiced with cotton for several years in northern Tanzania, with a producers’ cooperative, a small ginnery belonging to the Ministry of Trade and bank funding, helping the farmers to raise output of seed cotton from just over 130 tonnes to 1,100 tonnes in just over four years (Onumah and Temu, 2008). The system is now being piloted in the Western Cotton Zone where almost all Tanzanian cotton is produced, by Sibuka FM which has a lease on a ginnery belonging to the Shinyanga Regional Cooperative Union. The Warehouse Licensing Board reports that Sibuka ginned 400 tonnes of seed cotton supplied by farmer groups in the first season and 1,000 tonnes in the second season and that the operation proved profitable.

\(^{16}\) Total amount lent, not outstanding. Total funds employed were circa $20 million.
Since 2005, the Agricultural Marketing Systems Development Programme (AMSDP)\(^\text{17}\) has piloted a MF-linked WRS for grains, making use of Tanzania’s large stock of underutilised rural warehouses. Warehouses must have a minimum capacity of 300 tonnes, there are four participants (farmers, SACCOS, participating commercial banks and collateral managers), stocks must be insured for fire and theft, and collateral managers must have professional indemnity cover. As in Madagascar, farmers deposit their grain (maize or paddy rice) individually and have it stored identity-preserved.

AMSDP has implemented the scheme in 12 different locations, and has established clear grain handling and pest-control procedures. It has proved largely successful for paddy rice, but unsuccessful for maize, due mainly to farmers’ difficulty in foreseeing price movements in a market subject to considerable Government intervention, notably export bans. The success of the paddy rice pilots is highlighted by CRDB (the lead bank involved) which says it has a TSh 2.9 billion portfolio of MF-linked loans, equivalent to about 10,000 tonnes of paddy. However CRDB’s system is not free of problems, with SACCOS sometimes acting in contravention of agreed protocols. The above-mentioned SACCO networks (USAWA and Dunduliza) have also embarked on warehouse receipting, the latter focusing heavily on paddy. WFP and FSDT are moreover putting together a proposal to support SACCO networks in purchasing maize, rice and coffee. Appendix 5 contains further details of MF-linked grain warehousing initiatives.

Paddy is also the preferred cereal for RUDI, a rural development NGO that is assisting the establishment of cooperative marketing of grains, through two-tiered cooperative structures (on of them composed of 30 groups x 80 members) and with financing from FBME bank. Unlike the case with the MF-linked warehouses, grain is not being handled on an identity-preserved basis, but being marketed by the cooperative apex organisation which also runs a warehouse.

The leading grain trader in East Africa (Export Trading Company, or ETC) also offers warehouse receipting services (Approach 1.A) at some of its Farmer Service Centres (FSCs) which have storage facilities – each typically with 10,000 tonnes capacity. ETC buys paddy, maize, wheat, millets, beans, sesame seed, cashew nuts and legumes. It is using FSCs to supply independent farmers and tenants (who lease land and irrigation facilities) with inputs and machinery, under out-grower arrangements. ETC says it supplies some 150,000 tonnes per annum of fertiliser to the market. In marketing the crops, it gives the farmers a minimum guaranteed price and buys outright, deducting costs of inputs and services rendered. If farmers wish to store their crop with ETC in attendance of higher prices they must pay drying and storage charges), interest at 10% per annum, as well as a fixed ‘cover charge’ $50 per tonne. So far, there has been little uptake among farmers.

**Main conclusions.** Of all the countries visited, this one has made most use of WRS, above all in the case of coffee and raw cashews. Some African countries may find it useful to start with cash crops of this kind, as it allows them to avoid the thorny political issues which make it more difficult to establish WRS for food crops like maize. In this way they can build a foundation that allows for subsequent inclusion of maize when the policy environment is more favourable. In the case of coffee, much of the progress can be attributed to a supportive policy environment, the survival of some of the cooperative structures (including coffee

\(^\text{17}\) Reports to Presidency, funded by IFAD, ADB and Swiss Development Cooperation
curing companies), and the requirement to sell coffee through the auction, which makes it easier to trace coffee movement and collect debts. There is a need to strengthen system with this crop so as to assure uniform standards across warehouses. The cashew initiative appears to have been beneficial so far, but as indicated above there are certain issues bearing on its effectiveness. It needs to be treated as a pilot, independently monitored and evaluated with a view to strengthening or changing it to best serve the farming population. Decisions on extending the WRS to cotton should be informed by review of the cashew experience, as well as a comparison with other approaches to improving overall sector performance and producer welfare. One needs to balance the search for the best output price, something which can often be best achieved with WRS, with access to inputs and technical assistance, which may be achieved by other means.

The Tanzanian experience with cash crops suggests that the WRS can play an important role in reinvigorating POs, whereby the latter link with a warehouse (which may be non-cooperative), rather than the traditional approach of forming a vertically-integrated cooperative federation.

MF-linked WRS have made a generally successful start with paddy rice, but have failed with maize, due mainly to higher Government involvement in the market and farmers’ difficulty in foreseeing price movements. The weakness of rural SACCOS and their lack of professional management pose a major challenge. They are likely to prove much more sustainable if they can form well organised MF networks (along Madagascan lines) or link up with a collaborating bank that provides similar support (building on the work of CRDB-Microfinance), so as to ensure correct procedure and strong financial discipline; Government needs to encourage this. Another advantage of MF networks is that they can internalise collateral management functions, and thereby achieve substantial cost savings. As these schemes develop, they should gradually popularise the commingling of depositors’ stock by grade so as to facilitate more efficient marketing. They also need to improve market intelligence systems so as to help farmers in their marketing decisions.

ETC’s Farmer Service Centre scheme deserves to be studied further, given its role in driving intensification by smallholder farmers.

There are some striking inconsistencies in the policy and regulatory frameworks, which in the case of agricultural marketing and microfinance have increased the hazards in establishing WRS for grains. This also has implications for system of warehouse regulation. The Warehouse Licensing Board is providing much needed assistance in the establishment of the WRS. However, the inconsistencies raise questions Government’s ability to support a tough regulatory regime of the type the country will need to ensure the integrity of the industry in the long term, and avoid the Brazilian scenario reported earlier in this report. The prospect is probably best in sectors that have specific regulatory bodies (Tanzanian Coffee Board, Cashew Board etc.) that can assist the Warehouse Licensing Board in this task. It is recommended that stakeholders focus their attention on these regulatory and enforcement issues.
Kenya

**Background:** Kenya has around 40 million inhabitants, and its main food crops are maize (production around 3 million tonnes according to FAOSTAT) and sugar cane (5.2 million tonnes), while pulses (600,000 tonnes), wheat (350,000 tonnes) and potatoes (about 1 million tonnes) are also significant. The main export cash crops are coffee, tea and fresh vegetables.

Kenya is generally deficit in maize and beans, and supplements domestic supplies with imports from Tanzania and Uganda. When the maize deficit exceeds 300,000 tonnes or thereabouts, it normally imports from countries further afield, notably South Africa.

The post-election violence of early 2008 and high fertiliser prices during the same year greatly depressed maize production in the grain basket of Western Kenya, and the deficit has had to be filled by imports exceeding 1.2 million tonnes between November 2008 and July 2009. There has also been a reduction in maize consumption adversely affecting nutrition. Government is expecting a similar large deficit in 2009/10 due to rain failure.

Attempts to establish a regulated WRS have focused on maize, which has a less organised market than the main export crops, and is mainly produced by smallholders. Most maize goes for direct human consumption, about one third of this being processed by large-scale roller mills, mainly for consumption by better-off urban consumers, while small-scale posho mills (decorticators + hammer mills) handle the rest.

| TABLE 1: RECORDED MAIZE & BEAN EXPORTS TO KENYA & RWANDA in ‘000 tonnes |
|-----------------|-----------------|--------|--------|--------|--------|--------|--------|
| **Crop** | **from** | **to**  | **2004** | **2005** | **2006** | **2007** | **2008** | **Average** |
| Maize | Uganda | Kenya | 76 | 125 | 161 | 85 | 53 | 100 |
| | Tanzania | Kenya | 89 | 77 | 55 | 121 | 85 | 85 |
| | Uganda | Rwanda | 10 | 32 | 33 | 56 | 74 | 41 |
| Beans | Uganda | Kenya | 54 | 77 | 128 | 57 | 107 | 84 |
| | Tanzania | Kenya | 2 | 9 | 9 | 8 | 3 | 6 |

**Source:** RATIN trade information service; this captures a large part, but not the totality, of the (mainly informal) trade flows concerned
Kenya is in some ways suited to follow South Africa’s example in organising market institutions, having: a large urban population; a significant commercial farming sector; an active Cereal Growers Association (CGA) that brings together large-scale producers and a core of commercially-oriented smallholders; large-scale and relatively quality-conscious food processors, and; a strong and innovative banking sector. Kenya moreover has companies like Lesiolo Grain Traders Ltd. of Nakuru, and Grain Bulk Handlers of Mombasa, that are already providing storage services to the public. The parastatal National Cereals and Produce Board (NCPB) has around 2.2 million tonnes in storage capacity, much of which is underutilised and could be leased or sold to commercial warehouse operators.

However, public policy has proved something of a deterrent. Government intervenes in the maize market through NCPB and border controls, notably by lowering the rate of duty on imports from countries which are not zero-rated (notably South Africa). Intervention is largely driven by immediate political concerns, particularly during the last two years, as exemplified by the raising of producer prices prior to the December 2007 elections, and efforts to moderate consumer prices in late 2008, in the aftermath of the post-election deficit and high world food prices. The following account, from trade sources, describes the latter events.

As the harvest approached, the market price was KSh 2,200 – 2,300 per 90 kg bag, but Government then announced an NCPB buying price of KSh 1,950, stipulating that other parties could not sell above this price. It then announced that it would sell the grain it bought to certain millers at KSh 1,750 per bag. However farmers and traders would not deliver to NCPB, and simply sat on their grain or continued trading in a limited fashion. NCPB then imported from South Africa at a price estimated at around KSh 3,000 per bag and sold to the millers at KSh 1,750. Seeing that they were not going to work, Government dropped this set of policies in early 2009, eliminating a 50% duty on maize and allowing the private sector to import. The market price then stabilized at import parity levels.

Overall, this has been a volatile policy environment which has not encouraged farmers to deposit their grains in public warehouses.

The main initiative relevant to trade financing has been the establishment of the Eastern African Grain Council (EAGC), organised in the aftermath of the first African Grain Summit (held in Nairobi in October 2005), with the support of the US-funded RATES and the Kenya Maize Development Projects, COMESA and the East African Community. EAGC is a membership organisation, which aims to assist the development of the gamut of modern market institutions (including market information, grading, contracting/alternative dispute settlement, warehouse receipting and exchange trading), and to develop stakeholder advocacy in favour of market-friendly policies, including the facilitation of trade between countries of the Region and farther afield. Its website www.eagc.org shows 54 members, of which 39 are ‘Active’ (farmers, traders or processors), 3 are ‘Affiliates’ (grain associations) and 12 are ‘Associates’ (bankers, input dealers, inspection companies). The breakdown of ‘active members’ by country is as follows: Kenya 22, Tanzania 9, Uganda 5, Zambia 2 and South Africa 1. Active members are divided into categories of producer, trader and farmer.

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18 Note KSh 79 = US$ 1, hence KSh 2,200 - 2,300 per bag is about US$ 309 - $ 323 per tonne
19 There is already a Kenyan Agricultural Commodity Exchange (KACE), which currently concentrates on providing farmers with market information
each with 2 members on the Board, and each country with at least 5 members (of all kinds) is entitled to a country representative.

EAGC has established a system for certifying warehouses to receive grain deposits and issue transferable warehouse receipts. A conventional set of certification criteria has been developed covering capital adequacy, insurance cover etc. Certification is provided on the basis of documentary information and the due diligence of inspection companies – requirements are set out in http://www.eagc.org/warehouse_Rules_protocols.asp . The problems of bank support, often the bane of nascent WRS, appear to have been largely overcome, as one bank has already committed to the product while a further four are interested.

Notably Equity Bank\textsuperscript{20} has invested time and energy in understanding the WRS, developing policies and procedures, and training at branch and head office level. Equity does not require borrowers to put up guarantees additional to the warehouse receipt, and claims to turn round credit applications in three days. One of the other banks mentioned as a constraint the fact that WRs were not title documents and feared that disputes would end up in Court; they want there to be legislation to address this. However, EAGC has checked with legal experts and banks, concluding that it is not urgent to have an enabling Act.

EAGC certified the first warehouse site in April 2008. This is a 50,000 tonne silo facility in Nakuru, belonging to NCPB and leased to Lesiolo Grain Handlers which acted as operator. The post electoral violence caused supplies to be short in 2007/08, but Lesiolo took in about 1,000 tonnes of deposits of maize, mainly from smallholder farmer groups. Warehouse receipts were issued for 100 tonne lots, and Equity Bank provided finance against some of these. The crop was easily sold resulting in depositors making an average profit of KSh 600 per bag (over $100 per tonne).

As a result of Government interventions, no deposits were made after the 2008/09 harvest. Notwithstanding, other operators are seeking to get certified with a view to taking deposits in the 2009 harvest, some as ‘private warehouses’ that would issue WRs against their own grain. The most significant development is an opening with NCPB, which is rethinking its role in the light of the financial difficulties which have emanated from its previous interventions. It is considering separating its trading and warehousing activities and operating its sites as EAGC-certified warehouses.

\textbf{Main conclusions:} The establishment of EAGC makes sense in terms of market requirements and the underlying political economy. While providing for the development of modern market institutions in the Region, it helps stakeholders establish a dialogue with Governments that gives greater weight to issues that affect the longer term development of the grain industry vis-à-vis Governments’ immediate political concerns.

Due to the political situation and policy constraints, it is taking much longer than hoped to establish the WRS in Kenya. However EAGC has achieved solid progress, and it is to be hoped that donors will continue supporting long enough for the political situation to stabilise,

\textsuperscript{20} This relatively new and innovative player has 106 branches and 3.2 million clients in Kenya, and 30 branches and 300,000 clients in Uganda. It has did KSh 1.5 billion (over US$ 20 million) in agricultural production lending in 2006/07, some of it to producer organisations, and this made it aware of the need for complementary post-harvest financing.
to see it through its current initiatives and fully engage public players in the Region. As an organisation responsible to a range of stakeholder interests, but beholden to none individually, it can do much to establish modern market institutions throughout the Region, including the tough regulatory regime that will be needed to ensure the integrity of their WRS. Donors supporting EAGC will need to take account of earlier experience with ZACA (see Zambia case in Annex 2), taking care that the process is driven by stakeholders, supporting the development of whole market needs and not simply focusing on the matter of smallholder access.

Uganda

Background: Uganda gets most of its food from food crops and bananas (*matoke*), which due to their perishability are not easy to use as loan collateral. According to FAOSTAT statistics, the main grains produced are maize (about 1.2 million tonnes), millet (700,000 tonnes), pulses (650,000 tonnes) and paddy rice (160,000 tonnes). However statistical collection is weak, and sources close to the trade indicate that maize production is considerably less than FAO figures (700 – 900,000 tonnes), and paddy rice higher (over 200,000 tonnes) and growing very fast. The food crops of most potential for innovative trade financing are maize, paddy rice, beans, groundnuts and soybeans. Coffee (80% robusta) and cotton are main cash crops.

The policy environment is generally more favourable to establishing the WRS than in the other (mainland) countries visited, because cereals are not the main pillars of Uganda’s food security and Government is less inclined to intervene in their markets for political reasons. The President has declared an open borders policy on the ground that this benefits farmers.

Maize is more of a cash crop than in Kenya and Tanzania, and demand is split between three major markets: domestic manufacture of *posho* meal (hulled and hammer-milled maize), with the waste going for animal feed; exports to Kenya, southern Sudan and Rwanda**21**, and; the World Food Programme (WFP) which has its largest programme of Local and Regional Purchase (LRP) in Uganda. This currently involves the purchase of close to 200,000 tonnes of commodities a year, consisting of maize grain (the main commodity), beans, maize meal and corn-soya blend. Up to 2007, WFP procured around 95% by tender from a pre-selected group of traders, and four of these accounted for around 80% of total supplies, while the remainder was procured through direct purchase from producer organisations. Notwithstanding the strong performance of some POs, WFP was unable to reach its target of 10% from the latter source, and experienced a default rate of around 40%.

If one excludes LRP, the maize trade is mostly informal. There are two harvests per year, the turnover is fast and the end-users in Uganda and neighbouring countries are not usually demanding grain up to East African Grade standards – which is the type of grain that it is safe to store for lengthy periods and that they could expect to get from a regulated WRS.

Progress with trade financing initiatives: Ugandans founded the Ugandan Commodity Exchange (UCE) in 1998, but this was unable to gain traction with its trading floor. Notwithstanding it was able to gain Government and EU support to implement a project to

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**21** Recorded exports to Kenya and Rwanda are shown in Table 1 above. Unrecorded demand from Southern Sudan was particularly high in 2008, depriving Kenya’s deficit market of much needed supplies.
develop the WRS and develop the exchange floor (2006-2010), and Government designated it WRS regulator under the WRS Act of 2006 and Regulations of 2007\(^22\). Under this project, UCE has focused mainly on making the system work with maize and beans, has established grading standards, implemented a system of electronic warehouse receipts (eWRs) linked to the South Africa provider (ICX), hired and trained licensing staff (chief warehouse examiner), and trained banks to use the system. It has so far licensed three warehouses, one of which by April 2009 had already taken in upwards of 600 tonnes of maize\(^23\), deposited by farmers and small traders. WFP had purchased around 150 tonnes of this, and by the end of August it had procured 358 tonnes.

WFP’s role as a market-maker is of great importance to UCE, as it accounts for most of the demand for maize of standardised quality and moisture content that meets UCE’s grading standards and can be safely stored. Some local and regional processors would find it advantageous to procure a standardised product, if they could get it regularly. Hence if WFP can kick-start the use of receipted maize and beans, it is likely that demand will pick up in other quarters\(^24\). Once the system is working, farmers can adjust variety and quality with a view to targeting profitable market niches.

Conscious of this situation, UCE approached WFP-Uganda in May 2006, with a view to the latter procuring a substantial part of its requirements through the exchange floor and with delivery in the form of warehouse receipts. Discussions moved very slowly but an agreement was finally signed in late 2008 with the support of the Bill and Melinda Gates Foundation, which funds WFP’s Purchase for Progress (P4P) Programme, providing for WFP to buy 150,000 tonnes of maize in the form of WRS over a period of three years either by direct purchase (without tendering) or by forward contract. WFP is planning to finance the establishment of around ten model warehouses of around 2,000 – 3,000 tonne capacity, with a view to rolling out the system more widely.

UCE identified a strong need for warehouse receipting with paddy rice, where a number of people had acquired modern mills but were running them at a small percentage of their capacity (40 – 100 tonnes paddy per day), but none of them has applied for a license. Various causes were identified, including lack of motivation (mills are sometimes sidelines) and a desire to remain in relative informality.

UCE has also licensed a warehouse for holding in-bond merchandise on behalf of a leading bank. There has also been a successful small-scale pilot with cotton in Kasense, under a CFC-funded project, whereby primary societies placed their seed cotton under collateral management while it was stored and toll-ginned prior to the sale of the resulting products (lint and seed). UCE has also trained exchange brokers and installed a ‘settlement package’ which it may use with receipted commodities (payments will be channelled through a UCE trust account at the clearing bank, prior to the release of stocks).

UCE also considered regulating conventional collateral management activities, with a view to raising standards and bringing down the high level of fraud experienced during the present

\(^{22}\) For further details of UCE, see website at www.uce.co.ug

\(^{23}\) UCE reports much larger quantities being traded through these warehouses, much of it for sale to Sudanese traders, but this was not handled as part of the WRS.

\(^{24}\) The argument for this is laid out in an article by NRI staff (Coulter et al., 2007)
decade. The WRS Regulations of 2007 provided for two types of licensed warehouse (public and private), with the latter category allowing UCE to regulate collateral management. However, UCE decided not to go down the route of mandatory licensing, leaving it up to collateral managers whether or not they got licensed under the Act. Here it is significant that one leading member of the grain trade has been seeking to get licensed as a private warehouse. The electronic system made it easy to encumber the WRS with the bank and access credit on favourable terms (as noted above, EAGC has received similar requests).

**Main conclusions:** It is too early to say how this regulated WRS will fare. The electronic warehouse receipt system seems to be a source of added value. Electronic portals, i.e. computers where depositors can access the electronic system, have been installed in the licensed warehouses, training events have been programmed and the system is reported to be fully acceptable with depositors. More predictably, it is proving a source of considerable comfort with the banks who (according to UCE and consultants) are coming on board.

WFP holds the key to the uptake of the WRS in the grain sector, on which UCE has chosen to focus its activities. It needs to develop a strategic view of the WRS and what it can deliver in terms of the benefits to its own procurement operations and Uganda, and on the basis of this to develop team working relationships with the relevant players. Private warehousing offers an additional route that needs to be fully explored; while this will not allow deposits by farmers (UCE’s preferred route) it helps develop a more efficient marketing system that will serve farmers better.

While UCE is presently supported by donors and Government, it is a long way from generating the sort of licensing and trading fees its needs to survive long term. UCE’s Board, which mainly represents apex producer organisations and has a Government representative, is seeking to develop a strongly smallholder-based system. While recognising these as natural beneficiaries of the system, it needs to proceed pragmatically, guarding against the sort of problems that affected ZACA (see Zambian case), i.e. a heavy focus on immediate social benefits at the expense of detailed operating procedure and longer term system viability.

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25 Two cases involving collateral managers and a combined value over $50 million. Both cases involved coffee and one of them imported wheat.

26 One possible impediment to mandatory licensing lies in the WRS Act of 2006. Getting the Act through Parliament was a substantial achievement, though it had some errors, notably in the definition of warehouses, and there being no provision for action in the event of warehouse failure. In terms of scope, the Act was applicable to all kinds of agricultural and manufactured product, without any prioritisation in terms of regulatory focus. Certain issues were addressed in the drafting of Regulations but, depending on how warehousing cases are treated in the Courts, the Act may eventually need some amendment.
CHAPTER 5: ALTERNATIVE APPROACHES FOR AFRICA

Introduction

Based on international practice and experience in the six countries of Eastern and Southern Africa reviewed here, one can categorise the following main approaches to commodity financing and storage. Notwithstanding some overlap, this typology should help the reader to better understand the alternatives.

There are three major categories: 1. public warehousing, 2. private warehousing, and 3. farmer-focused approaches. The first and third categories (public and farmer-focused approaches), are further subdivided, making a total of eight different approaches, as follows:

Category 1: ‘Public warehousing’, This term does not imply public ownership, but refers to a company storing goods for public in general, on behalf of whosoever wishes to deposit in the warehouse, and issues to the respective depositors warehouse receipts that can be used for trading purposes (as documents of title), or as collateral for raising finance. This is in turn divided into:

A. Unregulated independent warehouses
B. Warehouses regulated by the State
C. Warehouse regulated by a trade body
D. Bulking by private trade intermediaries

Category 2: ‘Private warehousing’, i.e. warehouses which provide similar services to those in Category 1, but with no obligation to receive deposits from the public in general

Category 3: Farmer-focused approaches, to finance the storage of food for consumption during the lean season, and the bulking of surpluses to be marketed at a later date. This is divided into:

A. Cooperative approaches to warehousing, supported by bank lending
B. Microfinance-linked approaches
C. Technological improvements in rural storage

We describe Categories 1 and 2 as ‘commercial approaches’ because they are carried out on a relatively large scale and can involve many different kinds of depositors, and contrast them with Category 3, where farmers are the only (or near-only) depositors. In the following subsections, we describe these approaches and discuss their advantages and disadvantages. This is also summarized at the end in Table 1 at the end of this Chapter.

Approach 1.A: Public warehousing by independent unregulated warehouse operators

These build on the experience of countries with more highly developed marketing systems, notably in North America and South Africa. A trading company concerned sets up business in the country concerned, invests in grain handling and storage plant, and uses it to trade and provide a variety of other services, including storage and warehouse receipting. In principle
these are purely private initiatives, where the company believes it can best serve its business interests by offering farmers and smaller market intermediaries a choice of marketing arrangements allowing for immediate or later sale. Two companies (Farmers’ World and SENWES) have plans to do this in Malawi, while as noted above, Export Trading Company is already offering the service to farmers in Tanzania.

This approach is much to be desired. Once these players start offering these services, it is relatively easy for producers and producer organisations to avail themselves of their services. Their international trading credentials and high credit rating makes it easy relatively easy for depositors to access inventory finance, and on advantageous terms. The system is moreover self-propelling, relying on private incentives (rather than public support) for investment in storage facilities. If more players compete in this field, terms will be more favourable to farmers. The approach can be the start of a national regulated system. Indeed the practicing warehouse operators can set the standards that others must meet and institute a code of practice and certification scheme for the industry. This leads to Approach 1.C, ‘public warehousing regulated by a trade body’.

The main limitation to this approach is the small number of companies currently able and willing to offer the service. Banks would not trust many commercial operators to hold third party stock as collateral managers, probably only the largest companies in the Region, plus large South African and multinational grain companies. Companies may moreover offer storage terms that are less advantageous to farmers than one could expect under a regulated system. Some companies offering this service may not be willing to issue negotiable warehouse receipts, and they may make warehousing services conditional upon eventual sale to the company, and upon depositors using their own financing packages. By way of contrast some companies may see advantages in adopting a fully transparent approach, and this is exemplified by a statement by the manager of Zambian miller that offered his silos for farmer storage: “if farmers store with me, I know they will eventually sell to me at the market price. It is the most convenient option, saving on the cost of moving the stock out of my store and to another location”27.

Approach 1.B: Public warehousing regulated by the State

In this case, the regulatory service is a State-controlled technical service which licenses warehouse and ensures that they perform accordingly to a set of clearly understood rules. This may involve the suspension or revocation of licenses or taking over the management of failing warehouses. There are two major pre-requisites to the establishment of such a service:

a) that it can be kept completely free of political influence, avoiding the sort of problems which occurred in Brazil and Ukraine (see above); if this cannot be assured one should not try to establish such a service, and

b) that there is sufficient demand to make the service self-financing on the basis of user fees; this is discussed in Box 3 below.

This approach, which builds mainly on the North American experience, is being implemented in Tanzania, Ethiopia (the latter country is not covered by this review), and Uganda. Uganda

27 Naas Terreblanche, Manager of National Milling (Seaboard) ZACA-certified silo facility, Kabwe, Zambia, June 2006
is an ‘in between case’; it could fit Approach 1.C since State has delegated regulatory powers. However, the delegation is temporary in nature, lasting to 2011.

**BOX 3: FUNDING A NATIONAL REGULATORY SERVICE**

It is only worth establishing a regulatory service if it can be staffed with competent and well motivated people, properly budgeted and free from unnecessary red tape. This will normally require it to be able to raise its own income, out of fees for licensing and other services. Self-financing though user fees frees the regulatory service from the vagaries of Government budgeting, and helps ensure its autonomy and accountability. The latter reason was particularly emphasised by an American warehouse examiner (Ray Roy Boyd, *pers. comm.*) who took the view that the ability to raise user fees had kept the Federal examination independent of political largesse and had made examiners accountable to the warehouse operators who paid the user fees.

The annual cost of running a regulatory service is likely to be well in excess of US$ 100,000 per annum, depending on local circumstances. In addition some countries may wish to constitute an indemnity fund, on the grounds that the local insurance industry cannot offer affordable or sufficiently comprehensive insurance products to cover against the cost of warehouse failure. The State may constitute the fund, which is then topped up by the licensed warehouses on pro-rata basis, according to licensed storage capacity. For example, in 1999, the Bulgarian Government funded that country’s indemnity fund with an interest-free three year loan of $2.5 million.

Raising the required user fees requires licensing a lot of warehouse space. Let us assume for example that in a certain country, warehouses are holding maize for an average of five months, and charging fees of US$ 3.00 per tonne per month, and that they pay the regulatory agency US$ 0.20 per tonne per month or 6.7% of their gross revenue. We also assume that the licensed warehouses will on average be two thirds full during this period, and that the budget for the regulatory agency is US$ 200,000 per annum. To recover such a budget will require that the warehouse operators have licensed capacity of 300,000 tonnes and store 200,000 tonnes of maize.

The latter volumes are miniscule for major grain producing countries in North and South America, the Former Soviet Union and Europe; the cost of the service could be covered by licensing six 50,000 tonne elevators. However these volumes are quite significant in an African country where the total maize harvest is only 2 million tonnes and half of this never leaves the farm: 200,000 tonnes is 20% of the marketed crop. So far no African country has gone down the route of major grain-producing States in the USA, and insisted on mandatory licensing of warehouses. This raises the question as to whether there will be sufficient demand to pay for such a service?

It is in Tanzania where most has so far been achieved with this approach; combined annual lending against raw cashew nuts and coffee is in excess of $50 million per annum. As noted earlier, the Warehouse Licensing Board is fulfilling an important technical role, but it is at present only registering (not licensing) warehouses, and it has yet to be seen whether it will have the authority to take the necessary tough decisions such as revoking licenses of politically-connected warehouse operators.

One approach to this issue is to delegate regulatory authority to a private entity that could operate with reasonable autonomy, at arms length from political processes. This thinking inspired the establishment of ZACA in Zambia and the delegation of the regulatory function to UCE in Uganda. In practice this has proved difficult. In the case of Zambia, some

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28 When the Zambian certification agency (ZACA) was set up in 2001, it was planned as a very lean operation with two cross-trained staff and a total budget of just over US$ 100,000, but by 2006 the budget for staff (of which there were now nine) was nearly US$ 160,000.
officials never accepted moving the regulatory function out of the Food Reserve Agency and into ZACA, and this has contributed to the difficult atmosphere in which this new institution developed. In Uganda, the supervising Ministry reluctantly accepted the delegation to UCE, and only for a limited period, and required regulatory disputes to be referred back to the Minister, whereas UCE advocated referring them to arbitration, emphasising their technical (i.e. non-political) nature.

**Approach 1.C: Public warehousing regulated by a trade body**

In this case regulation may be carried out on a purely contractual basis, or under delegation of State powers. Examples working on a contractual basis include ZACA and ZAMACE in Zambia, and EAGC in Kenya and potentially other East African countries.

This approach has quite good prospects in Kenya, though some significant hurdles must be crossed. EAGC is already certifying warehouses in Kenya, and can do likewise in other countries. As an inter-professional regional body accountable to a diversified fee-paying membership, its executives should enjoy some protection from political pressures. Its survival depends on its establishing fruitful dialogues with Governments of the region. With its membership base, EAGC is moreover well placed to promote exchange trading.

There is also good potential in Zambia. The first Zambian attempt (establishment of ZACA) failed due the combination of factors listed in the country section and Annex 2, and further implementation is largely dependent upon the success of ZAMACE, which has some encouraging features. ZAMACE could be nominated WRS regulator under the planned Amendment to Agricultural Credits Act; if it is able to establish a number of linked warehouses it could go to establish a more comprehensive warehouse regulatory system for the nation, including large warehouses that functioned successfully under the ZACA regime.

The scale, strength and commitment of the concerned stakeholder groups are crucial to the successful development of the trade-regulated model. Both SAFEX and ZIMACE\(^29\) were active in developing their respective WRS, but obtained all the resources they needed from stakeholders, including banking sectors deeply involved in financing commercial agriculture and the food sector. Zambia and Kenya have substantial commercial farming communities, and this bodes well for the eventual take-off of the WRS in these countries. However, at present both EAGC and ZAMACE are dependent on donor funding, and in need of more active public sector support. ZAMACE has started addressing the latter by enlisting the support of WFP-Zambia and is working at other levels, while EAGC is in discussions with the National Cereal and Produce Board (NCPB) over an arrangement that may provide a breakthrough involving the licensing of NCPB warehouses.

**Approach 1D: Promoting bulking by established trade intermediaries**

This approach is planned in Malawi (USAID Grain Bulking Centres project) and evidence of it is found in the exchange-linked warehouses currently being set up in Zambia. The idea is to convert existing market intermediaries (including input stockists, commission agents and

\(^{29}\) Zimbabwe Agricultural Commodity Exchange, established in 1992 and which was closed down by Government in 2004
grain traders) into formal players who can either purchase the crop from the farmer outright, sell it on his/her behalf (e.g. through an exchange broker) and/or store it for a fee for later sale or consumption, all this to happen under a rule-based/regulated system. This is part of a longer-term strategy of gradually developing ‘local trade hubs’ which provide a diverse range of services to the local farming community, including input supply, marketing, storage, financial services and insurance. The projects supporting this approach will select intermediaries with a strong track record, and who enjoy widespread confidence in the communities concerned. They may receive support in developing their storage infrastructure, and banks will provide inventory credit against the stocks held in the warehouse, the first step in the establishment of a fully-fledged warehouse receipt system.

The approach seeks to build on the strength and local knowledge of existing intermediaries who already enjoy the trust of farmers in their respective locations, by increasing their expertise, diversifying their functions and developing their asset base. In countries like Malawi, this may provide a long-term route to the establishment of the regulated WRS. However, the details of the “Grain Bulking Centres” project have still to be worked out, and it will require a supervisory system that may prove costly in relation to the small volumes of produce handled. The project will need a much longer time horizon than the two years budgeted for it, and lean supervisory arrangements that allow for an eventual exit strategy.

**Approach 2: private warehousing**

Given the importance of collateral management, and the issues discussed in Chapter 3, it is worth taking steps to raise the level of professionalism and the guarantees provided. This might be done in various ways including training schemes, codes of conduct, national-level regulatory arrangements and/or some system of international accreditation (backed up by spot checks).

A radical innovation is for WRS regulatory agencies to license trading or processing companies to issue warehouse receipts against their own stock, without recourse to a collateral manager and without any obligation to hold stocks for third parties. Private companies in both Kenya and Uganda have approached their respective regulators (EAGC or UCE) with this intention. This approach would allow these players to issue warehouse receipts against their own stock for the purpose of raising bank financing, and also of transferring title to buyers. Potentially this could increase market efficiency, to the benefit of both farmers and consumers at either ends of the chain. It could help establish a more level playing field among trading companies, making it easier for local operators to access low cost capital. It is moreover a sort of self-propelling innovation, building on the motivations of the proposing company.

It is however quite a risky approach, where the regulator has little direct control over the actions of the licensee, who may move stocks around without the knowledge of a regulator who is not on site. Moreover, if such a warehouse operator goes bankrupt, it may also be difficult for the bank to prevent priority being given to other creditors. Such a system will require careful analysis of the legal issues, and a very rigorous set of guarantees and oversight mechanism. However trading companies that operate as public warehouses have similar opportunities to abuse the system, and in this case it may be at the expense of third party depositors. This observation underscores the importance of establishing very rigorous regulatory mechanisms from the outset. Following American practice the regulator should check all types of stock held including those third party stocks represented by warehouse
receipts, unreceipted third party stocks held in ‘open storage’ and stocks belonging to the warehouse operator.

A drawback of licensing ‘private’ warehouses is of course that farmers and other third parties are not entitled to use the system. If WFP or other public sector buyers wish to procure through WRS, they will probably want to specify that they will only buy WRs issued by licensed or certified public warehouses, as this will increase the number of prospective suppliers including farmers and small traders.

**Approach 3A: Cooperative approaches, supported by bank lending**

This is conventional cooperative marketing though in some cases it has similarities to WRS. The cooperative receives members’ produce, dries, cleans, processes and stores it in one or more ‘pools’ which it then markets. Producers typically receive two payments, one when delivering the produce, and the other at the end of the marketing season and based on the net revenue earned on the pool. Banks may lend to them using different kinds of security, notably by a charge over the stocks held in the warehouse; it may carry out some sort of surveillance, hire a collateral manager to control the site or hire an inspector. One of the earliest WRS initiatives (TechnoServe-Ghana) was basically of this kind, as were an initiative in Uganda (Rural Speed-Kapchorwa) and the Tanzanian cooperatives promoted by RUDI.

The main advantages of this approach are that:

a) farmers are often happy to place their stock in the hands of well-organised POs in which they have a stake; they may be less trustful of a remote warehouse operator;

b) as in all cooperative marketing businesses, profits (financial surpluses) are returned to members according to patronage, and;

c) it gets over the drawbacks with identity-preservation – the PO can hire skilled marketing staff or broker and get a good deal for members.

The main drawback lies in the performance of POs. First, there are the obvious failures:

a) POs that have inherited bad habits from the pre-liberalisation single-channel marketing era – frequently mentioned in Eastern Africa and notably with regard to past cashew marketing in Tanzania;

b) POs that have been promoted inexpertly with excessive donor largesse in the post-liberalisation scenarios.

However, the going has been difficult even for POs that have been expertly promoted by specialist and well-resourced organisations like Cooperative League of the United States (CLUSA), ACDI/VOCA and FERT (French NGO active in Madagascar and Tanzania), emanating from North American and European cooperative movements, and with years of experience in Africa. In Madagascar, there was a wide consensus that POs had performed poorly. In Zambia, USAID and IFAD have devoted considerable effort to establishing POs and higher level farmer-owned business, but with results which both donors considered disappointing. The USAID-supported APEP project in Uganda (2004-2008) seems to have done somewhat better. It established 3,500 POs specialised in the bulking of different agricultural commodities (coffee, cotton, sunflower, grains etc.), and over 2,500 of these were
reported as “remaining active”\textsuperscript{30}, but it will require several years to have a mature evaluation. In the latter case, the POs (20-30 farmers strong) were federated in brokerage groups called Depot Committees (10 POs each), and there was no attempt to federate them regionally and nationally.

This is a topic on which the author has researched and published in the past (see Stringfellow et al., 1997; Coulter, 2007), and he sought further expert opinion during this assignment. This led to the following conclusion:

- POs have some innate problems making them difficult to organise with smallholders. Here it is instructive to quote an interviewee in Madagascar, who sought to explain why MF networks had performed so much better than marketing POs in that country: \textit{POs are too close to the informal private trade with which they are trying to compete. Prices are subject of day to day bargaining, and this offers cooperative leaders many opportunities for private gain. MFIs have two distinct advantages, firstly their strict financial discipline, and secondly the major distance between lending rates in the formal and informal sectors meant that they are effectively segmented, and there is little opportunity for arbitrage between the two.}

- there is a trade-off between scale-economies and governance (smaller primary groups = greater accountability)
- it is easier to organise them with higher than with lower value crops, and
- they tend to be more successful under contract-farming arrangements, where an outside sponsor has a vested interest in their survival. Due to the high risk of contractual default, contract farming hardly exists with grains and other lower-value food crops.

At the same time the experience to date with regulated WRS in Tanzania\textsuperscript{31} and Uganda, suggests that grass-root POs engaged in simple bulking activities may get a new lease of life by working in combination with public warehouses, i.e. under Approaches 1.A–1.C.

\textbf{Approach 3B: Seasonal storage by farmers, supported by microfinance}

Francophone countries have pioneered this approach as they have established credit unions with the support of European and Canadian sponsors. They have generally opted for highly structured networks, where the local branch (caisse) is an integral part of the regional union and the unions are likewise federated at national level. Stocks held in warehouses under ‘dual key’ arrangements\textsuperscript{32}, normally in the name of individual depositors, who use their credit to finance a variety of revenue-earning activities in the post-harvest period, including the acquisition of inputs for the production of the next year’s crop of the commodity stored, or for consumption purposes. It is in Madagascar that this system has been most fully developed, using paddy rice as the main commodity, while Niger has pioneered the approach in West Africa. The approach is also being implemented in Tanzania, with some notable variants, notably the employment of collateral managers at the warehousing sites, and free-standing SACCOS (instead of networks) working in partnership with financing banks, and with the employment of a collateral manager at the site.

\textsuperscript{30} Source: End of Project Report. While pointing to the project’s successes, this report was critical of an excessively target/numbers-driven approach

\textsuperscript{31} In Tanzania participating POs also facilitated access to production finance (Gideon Onumah, NRI, pers. comm.)

\textsuperscript{32} One key held by the group of borrowers, one by the lender

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The networked MF system has certain advantages of public warehousing (Approach 1), notably that it is highly decentralised, low-cost and self-regulating, and it helps keep crops back in rural areas for lean season consumption. If the system is managed within a well-organised MF network like the Malagasy CECAMs, there is strong financial discipline and no need for collateral managers, or for a national regulatory agency (with an annual cost well in excess of US$ 100,000 per annum – see Box 3 above). The main limitations of the approach are that:

a) it is more difficult to implement with crops other than paddy rice, due to pest control requirements which are hard to fulfil at the level of rural households33,
b) farmers are not well placed to foresee price movements, and are likely to loose money in the more risky markets, particularly in coarse grain markets subject to a high degree of Government intervention.

This suggests a trade-off between MF-linked and commercial approaches to warehouse receipting, both regulated and unregulated. The advantage of the latter is that they can attract a variety of depositors and buyers of WRs, including traders, food processors, food aid donors and even Governments, who are either better equipped to manage speculative risk (through trading contacts and access to market information) and/or are willing to bear that risk.

The Malagasy CECAM case shows that organising and sustaining a MF network of this kind is a challenging and heroic task, where promoters seek the right balance between democracy and control. MF networks developed very rapidly with donor support are exposed to hazards including corruption and elite capture, so it may be necessary to institute external systems of financial supervision that are not under the undisputed control of the elected leadership. However, elected leadership and other local players may interpret this as being at odds with democratic cooperative principles upon which the network is built.

The CECAM network had the advantage of being organised on a ‘clean slate’, where there were few prior initiatives in rural microfinance. The Tanzanian case shows that it is doubly difficult to establish this kind of network in countries where there is significant financial indiscipline among pre-existing rural MF institutions (SACCOS) and official resistance to the introduction of structured networks.

It is most significant that, in both Madagascar and Tanzania, the MF-linked approach is working almost entirely with individual farmers who store their grain identity-preserved and market it individually. The same phenomenon was noted in the first licensed warehouse in Uganda; most of the stock supplied by farmers and small traders was being stored identity-preserved even though the warehouse operator had graded it. In the case of Madagascar this can be explained: (a) by the small volumes that most individuals want to store, their needing

33 Paddy is relatively easy to store, because its silicone-based husk makes it more resistant to pests than most other crops. Not surprisingly it was the object of some early WRS successes in Asia. In the Philippines there was the ‘Quedan Programme’, which allowed approved rice mills to issue warehouse receipts against which they can obtain working capital (Coulter and Shepherd, 1995); financing banks got an 80% guarantee of loan principal and accrued interest. In Thailand the Bank of Agriculture and Agricultural Cooperatives (BAAC) instituted a ‘Paddy Pledging Scheme’ which allowed farmers to obtain credit against stocks held on their own farms.
to withdraw it at different times to meet family consumption needs or generate cash, and; (b) by the failure of most producer marketing cooperatives. Identity-preservation is questionable in many areas of Tanzania and Uganda, since farmers have quite large surpluses, and it results in inefficiencies in the use of storage space and marketing. In Tanzania, certain players remarked on this with regard to the AMSDP-supported Chimala warehouse in Tanzania, at a time when (allegedly) farmers found were trying to sell heterogeneous lots of paddy but the buyers wanted to make large orders with a clear knowledge of the type and quality they could expect.

**Approach 3.C: Technological improvements in rural storage**

This is not a warehousing or trade financing initiative, but a complementary response needed to tackle the problems of seasonal food shortages in rural areas, such as those occasioned by ‘overselling’ and consequent circuitous movements of grain. Such cases were particularly cited in Malawi – see Annex 3. The approach is included here to ensure that these issues are dealt with comprehensively and holistically, covering the physical dimension of the problem, in addition to the marketing tools dimension.

The problems described can be product of both farmers’ financial constraints and of the difficulties they experience in protecting their products from pests over a period of many months. The latter problem is most prevalent with high-yielding dent or semi-dent hybrids maize which are more pest-prone than varieties that farmers have traditionally stored, and in pulses. Technological innovations can be introduced on their own, or in combination with financial support provided under one of the other approaches. An MF-linked approach may be appropriate, since the farmer can use MF to acquire the hardware, and finance his consumer expenditure while he holds grain in it.

Often the most cost-efficient way of reducing storage losses is to improve handling and pest control procedures, but with weak extension systems it may be best to invest in hermetic storage structures where insect populations can be controlled by deprivation of oxygen, or by fumigation. Hermetic structures involve much more up-front investment but have the advantages of low recurrent cost and absolute assurance against storage losses (providing he/she dries and cleans the grain and uses the structure correctly). Considerable work has already been done in this area, notably with the introduction of family sized galvanised iron tanks and silos in Swaziland, Central America (with more recent FAO initiatives in Malawi, Burkina Faso and elsewhere), triple–bagging of cowpeas in West Africa. As noted in the case of Malawi (Annex 3) there is probably scope for increasing the adoption of these structures by marketing them as consumer durables, with suitable promotion, quality control and financial support. Due to the high cost, it is probably best to introduce them first to larger surplus-producing farmers, wealthier farmers producing cash-crops like tobacco, and who can more easily bear the cost, or to small groups whose members are willing to take on a joint-liability loan. Indeed the primary aim should be simply to increase reliable storage at rural level, because this will tend to reduce the outflow to urban areas and mitigate increases in lean-season prices that impact so heavily on the majority of farmers who run short and have to buy on the market.
# TABLE 1: ALTERNATIVE APPROACHES FOR AFRICA

<table>
<thead>
<tr>
<th>Approach</th>
<th>Where it exists</th>
<th>Uptake</th>
<th>Advantages</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Public warehousing</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1a. Independent ‘elevator’ initiatives | Malawi and Tanzania | To be implemented by Farmers’ World (Malawi); under consideration by other companies in Malawi & Tanzania | • Provides a model for other parties to emulate  
• Avoids need for prior regulatory system | • Seeing is believing: intent of companies not yet confirmed  
• Availability of service limited by number of companies able and willing to provide service  
• Policy environment encourages may incline companies towards less transparent approaches |
| 1b. Public warehousing regulated by the State | Tanzania | Implementation started with coffee in 1998, under Tz. Coffee Board, extended to cashews and cotton. W/h Licensing Board established under 2005 Act, but full licensing regime not yet implemented. | • Certain experiences (North American, Philippine, Bulgarian & Kazakh) shows that it can work effectively | Problematic in where not strongly supported by society and/or national governance is erratic or weak. In these cases:  
• it is easily misconstrued by Government  
• regulation brings limited added value |
| | Uganda | Law passed 2006, three warehouses licensed in 2008. Deposits to date: at least 600 tonnes of maize | | |
| | Ethiopia | Law passed 2003; Min of Ag. Appointed as regulator but little progress in licensing reported | | |
| 1c. Public warehousing regulated by a trade body or an exchange | Zambia (under ZACA) | Implemented 2001-2007; 66,000 tonnes deposited in peak year. Enabling Bill not passed. ZACA closed in 2007 due to insolvency | • Non-governmental dimension enhances prospects for enforcement  
• Exchange & trade involvement in governance provide better offtake | • Difficult to implement in absence of major depositors (commercial farmers and/or organised smallholders) and large-scale offtakers  
• Depends on readiness of these to |
<p>| | Zambia (under ZAMACE) | ZAMACE in process of establishing 5 pilot warehouses | | |
| | Kenya (under | One warehouse certified April 2008, approx 1,000 | | |</p>
<table>
<thead>
<tr>
<th>EAGC</th>
<th>Tonnes maize deposited; start made with bank financing. Post-electoral situation + policy factors prevented deposits in 2009.</th>
<th>Establish a strong trade body and exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1d. Bulking by established trade intermediaries</strong></td>
<td>Malawi</td>
<td>CNFA starting to implement; USAID tendering out Grain Bulking Centres project</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Local knowledge, trust and economy; intermediary is in location</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Step towards establishing strong rural trade network, including warehousing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Requires regulation – cost implication unknown (probably easier to absorb in commodity exchange like ZAMACE)</td>
</tr>
<tr>
<td><strong>2. Private warehousing</strong></td>
<td>Kenya and Uganda</td>
<td>Under consideration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Strong business motivations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• System efficiency (arising from greater ease/lower cost of financing + use of WR as a title document) benefits producers and consumers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Does not allow farmers or others to deposit and use facility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Greater lending risks when warehouse operator is borrower; requires v. tough regulator and/or collateral manager</td>
</tr>
<tr>
<td><strong>3. Farmer-focused storage</strong></td>
<td>Tanzania</td>
<td>Under implementation by RUDI and FBME Bank in Mbaralia and Ifakara irrigated rice schemes</td>
</tr>
<tr>
<td></td>
<td>Malawi</td>
<td>Plan to implement in two locations with funding by OIBM</td>
</tr>
<tr>
<td></td>
<td>Ghana</td>
<td>TechnoServe-backed system started in 1988, with lending by Agricultural Development Bank (ADB) under dual key arrangement</td>
</tr>
<tr>
<td></td>
<td>Uganda</td>
<td>Pilot in Kapchorwa, 2006-07, supported by Rural Speed, with collateral management</td>
</tr>
<tr>
<td><strong>3a. Cooperative approaches, supported by bank lending</strong></td>
<td>Madagascar</td>
<td>Starting in 1992, now approx 55,000 tonnes of paddy per annum, with upwards of 20,000 depositors mainly storing in rooms. Very small quantities of maize, beans etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PO may elicit trust of farmers</td>
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<tr>
<td></td>
<td></td>
<td>• PO may hire marketing expertise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PO may scatter drawbacks with identity-preservation, and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Profits (surpluses) returned to members according to patronage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Innate problems with POs limit their development, particularly in case of large organisations</td>
</tr>
<tr>
<td><strong>3b. MF-linked approaches</strong></td>
<td>Madagascar</td>
<td>Starting in 1992, now approx 55,000 tonnes of paddy per annum, with upwards of 20,000 depositors mainly storing in rooms. Very small quantities of maize, beans etc.</td>
</tr>
<tr>
<td></td>
<td>Niger</td>
<td>Starting 2000 – study by Konlambigue now in progress</td>
</tr>
<tr>
<td></td>
<td>Tanzania</td>
<td>Started in 2004; estimated in excess of 10,000 tonnes of paddy stored per annum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Strong MF networks can provide excellent financial discipline</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MF networks combine regulation and lending lowering fixed costs &amp; facilitating smaller scale/decentralised operation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Opportunity for commercial banks to network with</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Standalone SACCOS offer weak prospects for financial discipline</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Storage difficulties with produce other than paddy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Difficult with commodities subject to erratic price patterns</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Lack of strong MF networks in most countries</td>
</tr>
</tbody>
</table>
### 3c. Technological improvements in rural food storage

<table>
<thead>
<tr>
<th>Location</th>
<th>Example Storage Solutions</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| All over Africa, especially damper areas | Galvanised iron silos & tanks: Swaziland, Malawi  
Triple-bagging of cowpeas | • Better rural storage targets same problems as financing of storage  
• Can complement Approaches 4 (MFI-assisted) and 7 (bulking by trade intermediaries)  
• Weak extension services leads to poor uptake of pest management recommendations  
• (Allegedly) fake pesticides  
• Permanent structures are costly |
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

The policy dimension

Warehouse receipt systems and related market institutions have potentially a very high socio-economic payoff, but run a significant risk of not progressing due to policy constraints. With millions of producers and consumers and consumers of food commodities, Governments often have strong short-term political incentives to intervene in the market, and at borders, on an ad hoc basis. For similar reasons, agricultural inputs are sometimes subsidised to the point of crowding out other important public expenditure. These interventions tend to send confusing signals to farmers and the trade, discouraging intensification and investment throughout the value chain.

If the continent is to progress in terms of food self-sufficiency, Governments need to develop agricultural policy platforms that facilitate self-help at all levels, within a framework of safety nets (e.g. Food Reserve Agencies) where the intervention is governed by known rules. Those designing and implementing policies at national and regional level should seek to make them as favourable as possible to the emergence of warehouse receipt systems and related market institutions, particularly as regards regional trade, legal frameworks, financial, fiscal matters and divestiture of public sector storage capacity surplus to what the State really needs. They should also liaise with teams promoting these market innovations to see what is locally appropriate.

The existence of strong local or regional teams is of key importance to the success of WRS and related market institutions, and it is these that take most of the important decisions in promoting them and who interface directly with policy makers. In the following paragraphs the author provides some general suggestions as to best approaches, but local promoters will judge how they can best turn them into reality.

Implementing commercial approaches to warehousing

As discussed above, both public and private warehousing deserve to be encouraged within the region, though the public approach tends to be more inclusive of different types of depositors. However, as noted in the case of Tanzania, it is possible for collateral managers to provide private warehousing to producers or producer organisations under field warehousing arrangements. The following are a range of steps that will accelerate the uptake of commercial approaches.

Support spontaneous public warehousing initiatives (Approach 1.A) and work to strengthen collateral management services (Approach 2)

Those promoting WRS need to be aware of and encourage spontaneous moves by large players towards the provision of public warehousing services (Approach 1.A). At its simplest promoters can enter into working groups with warehouse operators and supplying farmers. It is best if such companies can build such facilities with their own resources as this confirms their commitment to the enterprise, and if they seek public support there needs to be a very compelling case.
It is even more important to strengthen provision of collateral management services, given this activity’s strategic role and the crisis currently affecting it. First of all, model contracts should be developed, to be approved by reinsurers, the inspection industry and by UNCTAD, with a view to their promotion as standard documentation with the banks. Collateral management providers should also be targeted in the ‘training programme for practitioners’, discussed under ‘Specific Proposals’ below, with a view to raising professional standards among both locally owned and international operators in this industry.

Establish regulated systems where conditions are favourable (Approaches 1.B and 1.C), and take steps to ensure their rigour

In order to achieve very widespread provision of such services, it will be necessary to establish some form of accreditation or licensing with a view to building up the confidence in the industry (Approaches 1.B and 1.C). Such systems will assure standardised documentation, particularly electronic documentation, and can establish uniform performance guarantees to protect depositors against warehouse failure or bankruptcy. The existence of these systems and safeguards will give comfort to the financing banks, and lower their transaction costs in dealing with the WRS.

Regulated systems will only work if countries are prepared to establish very rigorous, even draconian, regulatory processes, so as to prevent fraud. If countries opt for direct public sector regulation (Approach 1.B), they should vest authority in the body which is least susceptible to political interference. Given the strides in banking regulation, the financial sector regulator generally holds more promise in this regard than do line ministries. Where possible, one should pursue the option of regulation by an industry body (Approach 1.C). One advantage of EAGC is that it is able to certify grain warehouses in countries other than Kenya, lessening the need for each country to establish its own system for these commodities.

Regulatory agencies should focus on regulation, and take care to avoid being side-tracked into wide ranging rural development activities. A well functioning regulatory agency may attract donor and public funding for the latter purpose, but herein lies a danger of diluting or compromising its core mission. The regulatory agency will need to engage in rural outreach in areas of its core competence, i.e. explaining the operation of the WRS, training in grading of crops, and use of the different type of WRS documentation. Beyond that, it is best to leave rural outreach to NGOs, projects and companies who have a presence in the field.

Prioritise the emergence of a cadre of competent warehouse operators

To develop a regulated WRS (Approaches 1.B and 1.C) in any given country or region requires that a number of locally-based and financially-solvent grain companies become compliant with a regulatory system, and get licensed. For most companies this will involve significant effort and expense, and they will in particular need to:

- make significant investments, in some cases involving rehabilitation or building of storage facilities
- get their owners/directors and staff trained so they understand how to operate under the new system
- manage their finances according to regulatory standards, and their relationships with depositors in a transparent, rule-based, manner, and
- put up insurance and performance guarantees, and pay annual license fees.
In short they will be making up-front investments in a new business paradigm to which they will, with rare exceptions, be unaccustomed. Often, they will be moving from relatively high margin trading towards a more volume-based business involving a combination of trading and service provision, i.e. the provision to the public of drying, cleaning, storage and other services for a fee.

If companies are to go to the trouble of becoming compliant, they need to know there is substantial demand for the services, i.e. farmers and others prepared to deposit at the warehouse, and off-takers wishing to buy warehouse receipts. In the early stages, one should try to stimulate off-take, so as to induce warehouse operators to make that initial investment in becoming compliant and ascend the learning curve. Once the system has gathered momentum, it can be more easily sustained by regular demand from buyers attracted by the advantages of being able to procure well-graded produce on a ‘sight-unseen’ basis in convenient locations.

**Capitalise on the strengths of electronic documentation**

It is worth capitalising on the progress of the system of electronic documentation pioneered in South Africa, heeding the words of Höllinger et al. (2009) that “the continued use of paper warehouse receipts is already outdated”. Internet connectivity has greatly improved since 2001, when an attempt was first made to introduce the system into Zambia, so the main criterion for adoption will be its acceptability with stakeholders. Uganda’s experience has so far been positive in this regard. The eWRS can be a major motivating factor with the banks, and will facilitate a move to the use of negotiable documentation. Throughout large parts of the World, and notably in Africa north of the Limpopo, collateral managers and other warehouse operators shy away from transferable documentation on account of the risk of forgery, even when the law provides for negotiability. It should be possible to overcome this problem where all documents are held on an electronic system with a single reliable electronic registry; the legitimate holder can be easily identified, and the audit trail quickly checked. For this reason countries may even wish to consider the option of putting all warehouse receipts, whether transferable or not, onto a single electronic system with a national registry. If this can be achieved it will encourage a spontaneous movement towards electronic trading in the documents, within the framework of commodity exchanges or under other auspices.

**Develop public sector procurement**

Warehouse receipt systems and related market institutions have the best chance if they enjoy a market among both private and public clients. As noted earlier in this report there are many international precedents for the public sector using the WRS to manage their public stocks and for price support purposes. In Africa, the UK Natural Resources Institute (NRI) and local associates made such proposals to the Ghana Cocoa Board in the 1990s, to the Government of Zambia in 2002 and to the World Food Programme from 2004. WFP is the only public institution to have started implementing the idea so far. The Kenya parastatal NCPB is also reported to be considering a link with the WRS, splitting its operation into procurement and warehousing operations. The latter would be run as EAGC-certified public warehouses which can take deposits from NCPB’s procurement arm and the public in general. Such a change would create massive demand for the regulated WRS in Kenya.

It takes time to translate such ideas into practice. While individual Directors or managers of food parastatals may see the logic in making such changes, they can expect resistance due to
distrust of the unknown and interests attached to the status quo. In the near term, those promoting the WRS probably have a better chance with WFP, building on the start it has made under the Purchase-for-Progress (P4P) programme. Annex 6 provides some detailed information on WFP’s local and regional procurement (LRP) operation. It now buys one million tonnes of commodities a year in Africa, and is in a position to provide an initial push to the WRS and related initiatives. Significantly, WFP is funded by the self-same donors that are funding market development projects in Africa, i.e. the US Government, the EU and Member States, and the Bill and Melinda Gates and Warren Buffet Foundations. For these donors, supporting LRP through WRS and other ‘new market institutions’ is a logical extension of their current priorities; it is simply a matter of bringing together specialists in these two areas of endeavour and ensuring a joined-up approach.

**Donors should develop an agreed and consistent approach**

The donor community (including multilateral institutions and food aid agencies) is a key protagonist for the development of modern market institutions in Africa. It is involved in WRS projects of one sort or another in all six countries reviewed in this report. One may cite particularly the cases of:

- USAID, the main agency funding EAGC, ZAMACE and various pilots in Malawi
- The EU, which is the main agency supporting the Uganda Commodity Exchange (UCE). Member States like Belgium and France support initiatives in francophone countries, and the Netherlands in Malawi.
- The Gates and Howard Buffet Foundations, which support the development of markets through projects like P4P, and AGRA

At the same time it has to be recognised that the development of such market institutions is a challenging task, given the limited scale of African agriculture, the dispersion of producers, the physical and financial infrastructure and the policy issues. If donors wish to continue supporting such institutions, they should make that support wholehearted, take a long-term approach and strive for consistency between agencies and across development and food relief activities.

There needs to be considerable pragmatism with regard to social objectives. This is borne out by the experience of Zambia between 2004 and 2006, where donors supporting ZACA tended to over-concentrate on smallholder outreach, at a time when ZACA should have been consolidating its previous achievements and focusing on governance matters vital to its survival. This is also relevant to the Gates/Buffet-funded P4P programme. If such programmes wish to work through WRS and/or exchanges, it is best if they can focus on maximising throughput, which means procuring from all-comers.

In the author’s experience, donor-funded projects sometimes get locked into an expenditure plan that has been overtaken by developments on the ground or at the policy level. In such cases it is most important that there is scope for re-orienting projects and changing budgetary priorities during execution. This needs to be considered at the time of project design.

To sum up - - - the development of an effective regulated WRS depends on having three pillars in place: (a) a sufficiently supportive policy framework; (b) a strong incentive framework, and; (c) a rigorous and effective regulatory system. Figure 2 shows how these preconditions can impact powerfully on the welfare of rural communities. Warehouse operators are the channel through which the system works. These are businesses that trade in
inputs and outputs and also offer storage services to the public\textsuperscript{34}. They may also offer other services, like equipment hire, technical support, milling etc. They are committed to the business for the long term, their services are competitive and they enjoy the trust of the people with whom they deal. As they expand their activity and increase in numbers, they offer their services to a wider public, including farmers and farmer groups. The growing volume of business attracts the attention of banks, making them want a slice of the action; they decide to invest in understanding the WRS and put in place procedures for loan appraisal and approval procedures tailor-made for this product.

**Implementing farmer-focused approaches**

There is a general need to increase farmers’ role in crop storage. If more is stored locally in villages, rural people will be more food secure in the lean season, notably households who produce insufficient to cover their needs, or who sell early for financial reasons. Occasionally rural storage initiatives have resulted in large increases in seasonal storage, lessening the need for States to establish price stabilisation mechanisms\textsuperscript{35}.

All over Africa there is lot of interest in initiatives involving marketing POs (Approach 3.A), but these can only be successful if there is strong demand for the service and the POs are viable. In some places, relatively large or multi-tiered POs, like those being supported by RUDI in Mbarali and Ifakara in Tanzania, or Ikuru in Mozambique, may improve producers’ access to the market and trade finance. However, these would be exceptions to the generally record. At the same time there is some evidence, particularly in the case of Tanzania, that first-tier POs can perform effectively in combination with commercial warehouses when they bulk the goods for financing and onward sale. The performance of this combination needs monitoring over time.

\textsuperscript{34} Merchants may be sole traders, limited companies, cooperatives or processors, as long as they meet strict regulatory requirements for the country concerned. As of 1998, about one third of licensed US grain elevators were cooperative enterprises.

\textsuperscript{35} Such is the case with the Post-Cosecha programme involving four Central American countries, and which widely disseminated the use of family-sized galvanised iron silos, see http://www.postharvest.ch/en/Home. The increase in rural storage brought about by this programme was of considerable utility to the Governments of these countries, given that three of them had by 1995 privatised the facilities of their official price stabilisation agencies. As argued in Annex 3, the Malagasy scheme has also had a positive aggregate impact on price stability.
FIGURE 2: CAUSE AND EFFECT IN THE DEVELOPMENT OF A STRONG REGULATED WRS

Strong incentive framework, especially market off-take

Rigorous & efficient regulatory system

A cadre of strong warehouse operators
- Good business record
- Compliant with regulations
- Financially sound
- Enjoy confidence of depositors & banks

Supportive public policy

Warehouses expand services in terms of:
- Numbers
- Volume of activity, and
- Geographical spread

More farmers, farmer groups & small traders use warehouse services

Greater income to community
Intensification and increased production

Bank lending
spurred by business prospects

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The development of warehouse receipting within structured MF networks (Approach 3.B) can avoid reliance on marketing POs because it creates a disciplined financial network for lending to individuals rather than groups, in a decentralised manner and at low cost. In the case of Madagascar this approach has not only allowed farmers to access seasonal storage finance, but played a broader role in developing rural finance and helping them access productivity-enhancing loans. There are however limitations to this approach, which will make it less suitable in some situations and with some crops. In order to better understand the potential and limits to application, it would be worth regularly monitoring initiatives with MF-linked WRS, particularly in Tanzania.

Lastly, farmers’ ability to increase their crop storage depends largely on the storage technology at their disposal (Approach 3.C). There is a need to review the technological options at farmers’ disposal in countries where maize is the major food staple, and what can realistically be achieved in terms of technological improvement, given the actual working of extension systems and commercial supply channels for pesticides and other inputs. Hermetic storage systems are an option worth considering in view of their ease of operation, but tanks, silos etc. need to be professionally marketed as consumer durables, including financing options – building on FAO’s approach in Malawi and elsewhere which has been largely limited to training artisans and demonstration. Of course, the economics of these technologies needs to be thoroughly assessed, taking account of rural price variations and the potential impact of public sector interventions and distribution of relief food.

Specific proposals

Proposals for commercial level WRS

Priority should be given to countries with prospects for developing or establishing the WRS in the near future, i.e. Tanzania, Kenya, Uganda and Zambia, and support provided in the following areas:

- In Tanzania, cash crops should be the main focus, building on the considerable progress to date. The priority objectives should be to: (a) review progress with cashew, coffee and cotton in greater detail than has been possible in this study, comparing to alternative approaches (e.g. contract farming), and; (b) develop rigorous, efficient, and self-financing regulatory mechanisms.

- In Kenya: the EAGC-supported grain system should be the prime focus, given the more quality conscious and formalised market than in most countries, the strong stakeholder involvement in EAGC, its regional focus and (potentially) a buy-in from the parastatal NCPB

- In Uganda: the grains system should initially be the prime focus, given supportive Government policies, and scope for leveraging WFP’s large-scale procurement. An explicit objective should be to fully test the eWRS, both for financing and delivery purposes.

- In Zambia, the development of ZAMACE and associated warehousing activities should be the prime focus, given significant stakeholder involvement and a relatively quality-conscious and formalised market

Country priorities, or the emphasis given to each, should change over time to reflect local developments, e.g. changes in policies, commitment of major stakeholders, willingness to establish a really rigorous regulatory system.
Of particular, but not exclusive, relevance to Malawi, there should be periodic ad hoc reviews of the progress of other commercial initiatives, notably of unregulated public warehouses (Approach 1.A), bulking by private intermediaries (Approach 1.D) and regulated private warehousing (Approach 2).

As explained above UNCTAD should commission the development of model contracts for use in collateral management. It should also commission a review of WRS legal frameworks and regulations, with a view to highlighting the pros and cons of existing arrangements, and proposing one or more standard models for Common-Law countries of Africa.

**Specific recommendations for donor and food aid agencies**

Relevant donors should hold annual meetings to update themselves on progress and coordinate their approaches. Principles of inclusiveness and information sharing should guide their activity at all levels.

Food aid agencies should continue engaging with promoters of WRS and associated market institutions with a view to developing mutually beneficial relationships and helping P4P attain its ultimate intention of connecting farmers to other local and regional food markets, as soon as possible. If there is scope for collaboration, the partners (food aid agency + WRS/exchange promoters) should form a cohesive joint working group with shared objective, and work according to the following principles:

- WFP should focus on **procurement terms**, as its main tool for bringing forth the required supply. Procurement rules should be tailored to facilitate the new procurement systems
- warehouse regulatory agencies should mainly focus on their core functions of ensuring the compliance of warehouse operators, achievement of product standards etc.
- rural development (supply side) aspects, including building of warehouses, should mainly be left to others, i.e. individuals, firms and rural development projects, with appropriate mentoring
- when working with market institutions, WFP should “go in hard” and focus on volume, taking account of economies of scale involved. This will usually mean procuring from all-comers, combining its P4P and regular resources together in a single strategy
- food aid agencies procuring grain should pay locational premiums or discounts, based on the cost of shipping the commodities to the place where they will ultimately be consumed
- WFP should make advance offers, to procure grains through warehouses that comply to given regulatory standards, thereby encouraging more prospective warehouse operators to become compliant, and
- where feasible, food aid agencies should divest themselves of warehouses and auction facilities in favour of local operators and institutions (this also applies to USAID-Food for Peace).

**Specific recommendations for farmer-focused approaches**

- Governments in the region should prioritise the integration of SACCOS into well-managed rural MF networks

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36 Depending on local circumstances, a certain percentage of regular resources may be combined with P4P in this way, and increased as the system takes root
MF and rural marketing specialists should assess whether and how they can adapt Malagasy approaches to rural microfinance and inventory credit to their own circumstances.

There should be periodic reviews of progress and issues with MF-linked and cooperative approaches with grains in Tanzania, and ‘bulking by trade intermediaries’ in Malawi and Zambia. In the case of Tanzania, there should also be reviews of farmer linkages to coffee warehouses.

There should be a study to re-evaluate of storage losses in staple crop at farm level, and financial losses through circuitous marketing in some countries, notably Malawi and the efficacy of different approaches to their reduction, including the use of hermetic structures.

Organisations promoting such storage hardware (e.g. FAO) should strengthen their marketing approaches (as discussed in the sub-annex to Annex 2).

A training programme for practitioners

UNCTAD should also support a training programme for practitioners, giving serious consideration to one which is under consideration in Kenya. It will cover a range of ‘modern market institutions’ (i.e. contracts and arbitration, warehouse operation and collateral management, commodity handling and grading, warehouse receipting, warehouse regulation, exchanges, clearing and settlement), and be implemented at three levels:

1. Development of training materials, for: (a) trainers and; (b) the people ultimately to be trained, including farmers, traders, processors, bankers etc.

2. Training and certification of trainers, to be carried out at a college to be selected from a short-list of alternatives, including:
   - Moshi University College of Co-operative and Business Studies (MUCCoBS), Moshi, Tanzania – seems to have a good reputation
   - Bandari College, Mombasa – the only college providing vocational training in warehousing, within a course on Freight Forwarding and Warehousing
   - and others

3. Grants for in-country organisations to hire certified trainers and carry out the training. Candidates for grants would include producer organisations like Cereal Growers’ Association (Kenya), Zambia National Farmers’ Union (ZNFU) etc., exchanges like ZAMACE, warehouse regulators like UCE or the Warehouse Licensing Board of Tanzania, commodity bodies like the Tanzania Coffee or Cashew Boards, and others.

UNCTAD will have a strategic purpose in this area, to help Africa establish a training programme that will accompany and support the process of market development for many years. The programme will require millions of dollars and be funded by various donors; UNCTAD will help kick-start the process and leverage the support of others.

UNCTAD should prioritise this activity in budgeting for the second phase of AAACP, and ask EAGC to submit a full training and financing plan by the end of 2009.
BIBLIOGRAPHY


GTPA and SENWES (2007) *Final Proposal for the Implementation of a Pilot WRS in Malawi.* Final consultancy report as submitted on 30/12/07, and amended by the WRS Task Force on 10/12/07.


## ANNEX 1: LIST OF PEOPLE INTERVIEWED

<table>
<thead>
<tr>
<th>Place</th>
<th>Institution</th>
<th>Person</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tanzania</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moshi</td>
<td>FERT Uganda</td>
<td>Marc Bergeron</td>
</tr>
<tr>
<td></td>
<td>FERT HQ (Paris)</td>
<td>Sébastien Valeur</td>
</tr>
<tr>
<td></td>
<td>Tanganyika Coffee Curing Co. Ltd</td>
<td>Felix S. Ole Ndukai, General Manager</td>
</tr>
<tr>
<td></td>
<td>Tanzania Coffee Board</td>
<td>Eng. Adolph A. Kumburu, Director General (formerly of Kilicafé)</td>
</tr>
<tr>
<td>Sanya Juu, Hai District</td>
<td>Sanya Juu SACCOS</td>
<td>John Lyimo, Board Member</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ernest Joseph Nyaki, SLO</td>
</tr>
<tr>
<td>Arusha</td>
<td>Agricultural Marketing Systems Development Programme (AMSDP)</td>
<td>Walter Swai, Programme Manager</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Abdul Pagali, Lead M&amp;E Officer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wangaeli Wilfred, M&amp;E Officer, northern region</td>
</tr>
<tr>
<td>Magugu, Manyara</td>
<td>Mshikamano SACCOS</td>
<td>Grayson Gama, Chairman</td>
</tr>
<tr>
<td>Dar-es-Salaam</td>
<td>Warehouse Licensing Board, Min of Trade &amp; Industry</td>
<td>Elizabeth Kimambo, Director</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fidelis Temu</td>
</tr>
<tr>
<td></td>
<td>IFAD</td>
<td>Mwatima Juma, IFAD Country Officer</td>
</tr>
<tr>
<td></td>
<td>AMSDP</td>
<td>Julius Kallambo, i/c warehouse receipt component</td>
</tr>
<tr>
<td></td>
<td>FBME Bank Ltd.</td>
<td>Kathleen Charles, Manager Strategic Services</td>
</tr>
<tr>
<td></td>
<td>Strategic Grain Reserve</td>
<td>Albert L. Ngondo</td>
</tr>
<tr>
<td></td>
<td>CRDB Microfinance Services Co. Ltd.</td>
<td>Samson K. Keenja, Chief Manager Operations</td>
</tr>
<tr>
<td></td>
<td>Rural Urban Development Initiatives (RUDI)</td>
<td>Titus P. Tumaini, Chief Manager, Credit</td>
</tr>
<tr>
<td></td>
<td>Buchanan Marketing</td>
<td>Brock Buchanan</td>
</tr>
<tr>
<td></td>
<td>Private consultant</td>
<td>Joel Straus (formerly with DAIPESA project)</td>
</tr>
<tr>
<td></td>
<td>Financial Sector Deepening Trust</td>
<td>William Creighton, Agricultural Finance Specialist</td>
</tr>
<tr>
<td></td>
<td>National Food Security Dept., Min of Agriculture</td>
<td>Mr Ngodo</td>
</tr>
<tr>
<td></td>
<td>TechnoServe</td>
<td>Margaret Matai</td>
</tr>
<tr>
<td></td>
<td>Jeffrey Lewis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mr Juma (by phone connection)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tim King</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jeffrey Lewis</td>
<td>Korongo Ltd.- (by email &amp; phone)</td>
</tr>
<tr>
<td>Mtwarra</td>
<td>Petra Larsen</td>
<td>Export Trading Co., by email</td>
</tr>
<tr>
<td></td>
<td>Cashew Board of Tanzania</td>
<td>Mr Silombe</td>
</tr>
<tr>
<td></td>
<td>Micronix warehouse operators</td>
<td>Mohamedi Kambi, Warehouse in-Charge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr Likogola Isa, Warehouse Clerk</td>
</tr>
<tr>
<td></td>
<td>Olam</td>
<td>Hitesh Tripathi, Factory Manager</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gilbert Hyagilla, Administrative Officer</td>
</tr>
<tr>
<td></td>
<td>Cashew Board of Tanzania</td>
<td>Shabani Simuli Yahaya, Quality Control Manager; Ayub Mohamed Mbawa, Director of Finance &amp; Admin.</td>
</tr>
<tr>
<td></td>
<td>Export Trading</td>
<td>Jayesh Patel and Sanjay Sahu</td>
</tr>
<tr>
<td></td>
<td>Mtwarra Regional Government</td>
<td>Colonel Tarimu, Regional Commissioner</td>
</tr>
<tr>
<td></td>
<td>NMB (bank financing cashew WR scheme)</td>
<td>Thomas Kilongo, Southern Zonal Manager</td>
</tr>
<tr>
<td><strong>Kenya</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nairobi</td>
<td>Eastern African Grain Council</td>
<td>Constantine Kandie, Exec. Director; Bridget Okumu, Mktg Info &amp; Communication</td>
</tr>
<tr>
<td>Organization</td>
<td>Contact Person</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
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<td></td>
</tr>
<tr>
<td>USAID Food-for-Peace</td>
<td>David Rinck</td>
<td></td>
</tr>
<tr>
<td>Kenya Commercial Bank</td>
<td>Maria Mkenda, Business Development Manager</td>
<td></td>
</tr>
<tr>
<td>ACDI/VOCA</td>
<td>Sophie Walker, Agric Marketing Specialist</td>
<td></td>
</tr>
<tr>
<td>Equity Bank</td>
<td>Ester Muiruri, General Mgr Marketing-Agribusiness</td>
<td></td>
</tr>
<tr>
<td>Cereal Growers Association</td>
<td>David Nyameino, Chief Exec Officer</td>
<td></td>
</tr>
<tr>
<td>Eastern Africa Farmers’ Federation</td>
<td>Stephen Muchiri, Chief Executive</td>
<td></td>
</tr>
<tr>
<td>ACDI/VOCA</td>
<td>Steve Collins, Country Director &amp; Chief of Party</td>
<td></td>
</tr>
<tr>
<td>Financial Sector Deepening Kenya</td>
<td>Felistus Mbole, Deputy Programme Manager</td>
<td></td>
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**Uganda**

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<thead>
<tr>
<th>Location</th>
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<tbody>
<tr>
<td>Kampala</td>
<td>Uganda Commodity Exchange</td>
<td>Alex Rwego, Manager</td>
</tr>
<tr>
<td></td>
<td>LEAD Programme</td>
<td>Edward Gitta (formerly of APEP)</td>
</tr>
<tr>
<td></td>
<td>USAID</td>
<td>Douglas Baloko, Director, Office of Economic Growth</td>
</tr>
<tr>
<td></td>
<td>ACE for Africa, Malawi</td>
<td>Ian Goggin, Manager (was participating in MIS training workshop organised by EAGC)</td>
</tr>
<tr>
<td></td>
<td>Uganda Commodity Exchange</td>
<td>Alex Rwego, Manager</td>
</tr>
<tr>
<td></td>
<td>WFP</td>
<td>Paul Howe (by phone)</td>
</tr>
<tr>
<td>Jinja</td>
<td>Agroways Ltd. (first licensed warehouse)</td>
<td>Herbert Kiyewamwena, Director</td>
</tr>
<tr>
<td></td>
<td>WFP</td>
<td>Richard Ilungu, Manager</td>
</tr>
<tr>
<td>Canary Is. &amp; London</td>
<td>GFA Consulting Group</td>
<td>John Kennedy, Consultant (by phone)</td>
</tr>
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**Madagascar**

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<tbody>
<tr>
<td>Antananarivo (Tana)</td>
<td>Association ICAR</td>
<td>Jean-Hervé Fraslin, Délégué</td>
</tr>
<tr>
<td></td>
<td>Platform de Concertation et de Pilotage de la filière Riz (PCPRIZ)</td>
<td>Ms Ambinintsoa Tiana Bemananjara</td>
</tr>
<tr>
<td></td>
<td>INTERCECAM (national credit union federation)</td>
<td>José Serge Rajaonarison, DG</td>
</tr>
<tr>
<td></td>
<td>FTHM Conseils</td>
<td>Thierry Rajaona, Associé</td>
</tr>
<tr>
<td></td>
<td>Agence Française de Développement (AFD)</td>
<td>Cédric Boulanger, Chargé de Projets</td>
</tr>
<tr>
<td></td>
<td>Bank of Africa</td>
<td>Jean Jacques Chik Hen Shun, Directeur Délégué chargé de la Micro-Finance</td>
</tr>
<tr>
<td></td>
<td>Ministry of Agriculture</td>
<td>Suzelin Ratoharijaona, Directeur de l’Appui à l’Organisation des Producteurs</td>
</tr>
<tr>
<td>Ambatonrazaka &amp; nearby</td>
<td>URCECAM Alaotra-Mangoro (regional credit union federation)</td>
<td>Tina Lalao Raobelina, Directeur Régional Manager of local CECAM (branch)</td>
</tr>
<tr>
<td></td>
<td>Projet BVLac</td>
<td>Phillipe Grandjean, Chef de Projet</td>
</tr>
<tr>
<td></td>
<td>BNI Madagascar</td>
<td>Vonjimaina Nirina Andrianarivelohi</td>
</tr>
<tr>
<td></td>
<td>BEST</td>
<td>Mamy Rafaralahisona</td>
</tr>
<tr>
<td></td>
<td>Union des OTIV Alaotra-Mangoro</td>
<td>Miarivola Andrianmananjakaina, Chef de Département Administration et Finance</td>
</tr>
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<td></td>
<td>URCECAM Alaotra-Mangoro</td>
<td>M. Ralaly, President</td>
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<tr>
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<td>FCPA</td>
<td>M. Salohy</td>
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<td>Velona Solofo Ramorandrosos, Chef de Département d’Engagement</td>
</tr>
<tr>
<td></td>
<td>Société Industrielle e Agricole du Lac Alaotra (SILAC)</td>
<td>Andriambololomanana Ramelison Faly, Directeur Régional</td>
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**South Africa – half-day meeting at L&L Risk Management, Pretoria, 11 May 2009**

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<th>Location</th>
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<tr>
<td>Pretoria</td>
<td>L&amp;L Risk Management</td>
<td>Leon du Plessis</td>
</tr>
<tr>
<td></td>
<td>Grain Silo Industries</td>
<td>Dirk Kok</td>
</tr>
<tr>
<td></td>
<td>SENWES Grainlink</td>
<td>Gerard van Zyl, Manager, Business Development; Chrisbarnard Motengwe, Asst. Manager, Business Development</td>
</tr>
<tr>
<td></td>
<td>World Food Programme</td>
<td>Simon Denhere, Head of Regional Procurement</td>
</tr>
<tr>
<td></td>
<td>Bourse Africa</td>
<td>Adam Gross, Head of Strategy</td>
</tr>
<tr>
<td></td>
<td>ICX (electronic WR providers)</td>
<td>Brett Riley</td>
</tr>
<tr>
<td></td>
<td>SAFEX Div of J’burg Stock Exchange</td>
<td>Chris Sturgess</td>
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**Zambia**

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<tr>
<td></td>
<td>PROFIT Project (USAID)</td>
<td>Rob Munro, Senior Market Development Adviser; Mark Wood; James Luhana, Business Advisor</td>
</tr>
<tr>
<td></td>
<td>World Food Programme</td>
<td>Felix Edwards, P4P Coordinator &amp; Head of Local Food Procurement; Pablo Recalde, Country Director</td>
</tr>
<tr>
<td></td>
<td>USAID</td>
<td>Dann Griffiths</td>
</tr>
<tr>
<td></td>
<td>Food Reserve Agency</td>
<td>Dr Antony Mwanaumo, Exec. Director; Lazarous Mawe, Food Reserve &amp; Marketing Manager</td>
</tr>
<tr>
<td></td>
<td>Grain Traders’ Association of Zambia</td>
<td>Jacob Mwale, Exec. Officer</td>
</tr>
<tr>
<td></td>
<td>Consultant designing monitoring system for P4P</td>
<td>Doug Creiger, Consultant</td>
</tr>
<tr>
<td></td>
<td>CLUSA</td>
<td>Mike Mailloux, consultant working for CLUSA</td>
</tr>
<tr>
<td></td>
<td>IFAD</td>
<td>Dick Siame, Country Officer</td>
</tr>
<tr>
<td></td>
<td>PROFIT Project (USAID)</td>
<td>Rob Munro, Senior Market Development Adviser</td>
</tr>
<tr>
<td></td>
<td>Warehouse operators, traders &amp; others met at ZAMACE trading meeting</td>
<td>Johnny dos Santos, Bus. Development Mgr., AfriConnect Zambia; John Simuchina, Trader; Wilson Phiri, Trader in Petauke; Ms. Tupelo, Warehouse Operator from Mkushi + other traders</td>
</tr>
<tr>
<td></td>
<td>ZNFU</td>
<td>Hamusimbi Coillard, Liaison Officer</td>
</tr>
<tr>
<td></td>
<td>Lloyds Financials</td>
<td>Prof. Lloyd Chingambo, CEO</td>
</tr>
<tr>
<td></td>
<td>Michigan State University/COMESA</td>
<td>Prof. Michael Webber</td>
</tr>
<tr>
<td></td>
<td>COMESA</td>
<td>Thomas Barasa,</td>
</tr>
<tr>
<td></td>
<td>Corpus Legal Practitioners</td>
<td>Charles Mkokweza</td>
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**Malawi**

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<tbody>
<tr>
<td>Lilongwe</td>
<td>Economic Resources Ltd., Blantyre</td>
<td>Bob Martin, Adviser to National Food Reserve Agency (NFRA) – by phone</td>
</tr>
<tr>
<td></td>
<td>Opportunity International Bank of Malawi (OIBM)</td>
<td>Alexandre-Alain Kalanda, CEO; Ephraim Mazizwa, Microbanking Manager; Steve Mgwdaira, Chief Relationship Officer; John H. Fromm, Chief Operating Officer</td>
</tr>
<tr>
<td></td>
<td>Agricultural consultant (to OIBM &amp; tobacco industry)</td>
<td>Jim Henderson</td>
</tr>
<tr>
<td></td>
<td>World Bank</td>
<td>David Rohrbach, Senior Agricultural Economist</td>
</tr>
<tr>
<td></td>
<td>USAID, Malawi</td>
<td>Mark Visocky, Team Leader for Sustainable</td>
</tr>
<tr>
<td>Role</td>
<td>Name and Contact Information</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>--------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>National Smallholder Farmers’ Association of Malawi (NASFAM)</td>
<td>Dyborn Chibonga, CEO&lt;br&gt;Joshua Varela, GM of NASFAM Commercial Technical Analyst</td>
<td></td>
</tr>
<tr>
<td>Malawi Rural Finance Co. Ltd. (MRFC)</td>
<td>Silas Murotho, CEO</td>
<td></td>
</tr>
<tr>
<td>Rural Market Development Trust (CNFA Affiliate)</td>
<td>George J. Magai, MD&lt;br&gt;Alick Mtika, Finance &amp; Administration Manager</td>
<td></td>
</tr>
<tr>
<td>Farmers’ World Ltd. (major trader)</td>
<td>Dimitri Giannakis</td>
<td></td>
</tr>
<tr>
<td>Min. of Agriculture</td>
<td>Eric Haraman</td>
<td></td>
</tr>
<tr>
<td>Agricultural Commodity Exchange for Africa (ACE)</td>
<td>Kristian Schach Moller</td>
<td></td>
</tr>
<tr>
<td>Grain Traders and Processors’ Association</td>
<td>Paulo Chiziwa, M.D.</td>
<td></td>
</tr>
<tr>
<td>National Food Reserve Agency (NFRA)</td>
<td>Nasinuku Saukila, CEO</td>
<td></td>
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</table>

**Others – by phone**

<table>
<thead>
<tr>
<th>Location</th>
<th>Organization</th>
<th>Contact</th>
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<tbody>
<tr>
<td>London</td>
<td>International Federation of Inspection Agencies (IFIA)</td>
<td>Roger Brockway</td>
</tr>
<tr>
<td>Denmark</td>
<td>Baltic Control</td>
<td>Hugo Pedersen</td>
</tr>
<tr>
<td>Geneva</td>
<td>Cotechna</td>
<td>Matthieu Delorme</td>
</tr>
</tbody>
</table>
ANNE 2: ZAMBIA CASE STUDY

Background

Zambia is a landlocked country of about 12 million people and abundant agricultural land. Maize is the leading food crop followed by cassava, but the country also produces and utilises substantial quantities of wheat, groundnuts, soybeans, mixed beans and other crops. Maize production is highly variable, averaging around 1.2 million tonnes a year between 2003 and 2007, but peaked at an estimated 1.9 million tonnes in 2009. About 15% of maize and all wheat production are accounted for by about 900 large-scale commercial farms. As much of the maize is consumed by farming surplus, marketed production is heavily skewed towards the larger producers who are able to produce a surplus. If one only looks at smallholder production, about 2% of farmers account for 50% of the marketed surplus.

Discussions about the WRS started in the mid 90s, when the author of this report visited Zambia in representation of the UK Natural Resources Institute (NRI) and engaged the Ministry of Agriculture and the Zambian National Farmers' Union (ZNFU) in discussions about the concept. At the time Zambia was going through a radical (and rather stressful) process of liberalisation and market reform, and the Food Reserve Agency (FRA) was being planned as a sort of post-liberalisation parastatal with a strictly defined role - to manage a large stock of former Government and cooperative warehouses (leasing them out to the public), and running a national food security reserve, the purpose of which was to provide a buffer for emergency relief (but without a mandate for price stabilisation).

These circumstances appeared to favour introduction of new market institutions to support the development of the liberalised marketing system, and this led to a proposal to the Common Fund for Commodities (CFC) for a project to develop the WRS in Zambia, and FRA was to be the Local Implementing Agency. The Board of FRA was mainly composed of private sector representatives and it was believed that it could carry out a regulatory role in the interest of both public and private sector stakeholders. The project would at first be focused on the storage of maize which is harvested once a year, around May-June.

The liberal policy framework that the CFC-funded project was supposed to support did not altogether materialise. As the decade progressed, Government became less enthusiastic in its approach to liberalisation and continued intervening in input markets with fertiliser credit and, on an ad hoc basis, in output markets, particularly in deficit years when it would import maize through FRA in order to control prices in the lean season. This sort of intervention has tended to increase during the new millenium, despite growing evidence that: (a) it was discouraging the private trade from taking positions and was actually destabilising the prices, the opposite of what was intended, and (b) fertiliser credits were not always going to those who needed them most and repayments rates were low. At the time of the author’s visit an export ban for maize was in force. Public sector purchases have been made at a high pan-territorial price, something which tends to foster the belief that it is the State, rather than millions of consumers, that is the source of market demand, and encourage small-scale producers to remain beholden it rather than engage with private mechanisms that can them serve them in the longer term.

Development of the Regulated WRS

The Project only started in June 2000, and it soon came apparent that private stakeholders lacked confidence in FRA which they saw as a highly politicized institution, and that the private sector Board members had little clout. A decision was consequently taken to move the Local Implementation Unit out of FRA and establish it as a new stakeholder-controlled Company Limited by Guarantee, the Zambian Agricultural Commodities Agency (ZACA) Ltd., which was to be constituted by representatives of farmers, traders, food processors, bankers, insurers, two development projects and Government. Both the then Minister of Agriculture and the Director of FRA were in favour of this change, but it was unpopular with some officials.

The basic system was established in 2001. ZACA formed a Board composed of stakeholder representatives, opened an office, hired two staff who were trained in warehouse examination and grading, and passed regulations for the certification of warehouses and grading standards. Legal work was commissioned, leading to the proposed

37 See research results on Slide 8 of Presentation on MSU FSIII website http://www.aec.msu.edu/fs2/zambia/Coming_Policy_Attractions_mtw1.pdf
amendment to the Agricultural Credits Act, which would both establish warehouse receipts as a negotiable instrument and a regulatory authority - this could be ZACA acting under delegation from Government. Despite widespread agreement, the Bill was not prioritised and to this date has still to be presented to Parliament.

The banking sector was initially very sceptical, but NRI made overtures and brought a trainer up from South Africa; attitudes warmed and ZACA became a regular item on the agenda of the Bankers’ Association of Zambia's monthly meetings. An electronic warehouse receipt system was instituted, linked to an American provider, but the idea was abandoned in favour of paper warehouse receipts, on account of poor internet connectivity and lack of stakeholder acceptance.

ZACA quickly attracted the support of other agencies, notably a USAID project, IFAD (through the SHEMP Project) and the Dutch Government. USAID also employed its Development Credit Authority (DCA) Guarantees to encourage bank lending against warehouse receipts, though in practice banks had limited recourse to it. CFC/NRI support came to a close in 2004, but USAID and IFAD stepped in with support projects, concerned primarily with extending access to smallholder depositors through partner agencies. USAID provided some $100,000 in additional laboratory equipment and staff numbers expanded from three to ten.

Uptake of the instrument started very slowly, with 200 tonnes of soybeans deposited in 2001, zero deposits in 2002 (a poor harvest year), and then took off, with 6,000 tonnes of maize deposited in one warehouse in 2003 and 65,038 tonnes maize deposited and 70 tonnes of groundnuts with four warehouse operators in 2004. A total of 105,000 tonnes of warehousing capacity was certified in the latter year. In 2003, commercial farmers were responsible for all deposits but in 2004, groups of smallholders deposited a significant amount; how much is not entirely clear but it was at least 3,764 tonnes recorded in reports to USAID.

In 2003 there was one financing bank, a small and innovative player called Inter-Market Discount Bank, but in 2004, other financiers had come to the fore. The deposited maize was financed under two competing systems:

a) The AFGRI system financed by Rand Merchant Bank of South Africa, and
b) The ZACA system.

AFGRI is the leading warehouse operator and grain trader in South Africa, and in Zambia already emerged as the leading ZACA-certified warehouse operator, receiving a total of 35,430 tonnes of maize in deposits, or 54.5% of the total. It required a minimum deposit of 100 tonnes and advanced money sourced from Rand Merchant Bank at a rate of $100 per tonne without the issue of warehouse receipts. The ZACA system accepted minimum deposits of 30 tonnes and local banks made advances according to borrower needs and their perception of risks, up to a maximum of 80% of market value.

According to USAID reports, warehouse receipts were issued for 20,954 tonnes, and financing of US$ 2.18 million was advanced against 18,169 tonnes of maize in deposits, or 54.5% of the total. The average market price at the time of financing was US$ 125 per tonne, and at the time of sales was $180. All credits were 100% repaid, but not without difficulty with one of the warehouse operators who moved collateralised stock out of the warehouse concerned (ZACA, pers. comm.).

The volume of deposits in 2004 was a very significant achievement because it provided US$ 56,000 in certification fees, approaching half of the annual income that ZACA needed to break even according to its original lean design. This suggested that if ZACA diligently pursued the same approach, and increased stakeholder buy-in, it could potentially break free of donor support.

This did not work out. There were no deposits in 2005 (a deficit year) and 19,879 tonnes are reported to have been deposited in 2006 (12,300 tonnes by smallholders); however this data should be treated with caution, since by 2006, ZACA was getting into serious management difficulties. ZACA became insolvent, reportedly due to tax liabilities and losses on an unauthorised contract, and was liquidated in 2007. However, the laboratory and some of the staff were taken over by a new initiative, the Zambia Agricultural Commodities Exchange (ZAMACE) the idea of which had already been in gestation for more than a year. Hereafter the prospects for the regulated WRS rest largely on ZAMACE which needs to certify and register warehouses for delivery of commodities against its contracts, and can take on the regulatory role previously sought for ZACA.

Enter ZAMACE

The idea of ZAMACE was put forward by a Zimbabwean émigré farmer who had previously been instrumental in establishing ZIMACE, and was established by a group of leading trading companies to trade among themselves and

38 $740,000 or 34% of this figure, was covered by the DCA guarantee
with other parties. USAID provided budgetary support. The exchange traded 20,000 tonnes of commodities in its first year of operation up to June 2008, and by the end of August 2009 had traded an additional 15,800 tonnes, and had registered and charged fees on members' off-exchange trades for approximately 16,630 tonnes. The volumes so far traded are very small compared to ZAMACE's target of 400,000 tonnes a year which it requires to break even and make a comfortable surplus; however they already make it the largest of Africa's incipient commodity exchanges (though clearly miniscule compared to SAFEX which trades over 200 million tonnes per annum in agricultural futures and options contracts).

Lately and very significantly, the World Food Programme (WFP) has set aside its traditional procedure of procuring by tender from pre-qualified traders, and has instead opted for buying through the exchange, boosting interest in ZAMACE as a trading centre. WFP believes that the Exchange has a secure and transparent trading platform, standardised contracts and procedures and risk mitigation measures, can thereby play a vital role in the evolution of the Zambian commodity market from one based on short term trading horizons and margin-making to one based on volumes, which will be in the best interests of all stakeholders - in particular to the small and emergent farming communities - and the country as a whole over the long term. The country office of WFP has made special efforts to adapt its procedures so that it can procure efficiently through the exchange, and has worked with the Rome Headquarters to accomplish this. The following changes are particularly significant: WFP will skip its normal requirement to register all suppliers, but is simply registering the broker(s) through whom they buy; instead of requiring delivery to Lusaka, it will procure in remote locations where it requires food commodities thereby saving considerably on logistics; suppliers will be allowed the alternative of bidding FCA (at supplier's warehouse) or DDU (delivered duty unpaid WFP warehouse). ZAMACE has moreover introduced a reverse auction procedure to assist WFP in discovering prices in thin markets.

Until recently, all ZAMACE brokers were appointed by trading members, but there are now three non-trading members, i.e. members offering their services as independent brokers. This is an important step in opening up ZAMACE to farmers, both commercial and smallholders, reassuring them that they will be fairly treated. Contract enforcement is important to ZAMACE as it is with other exchanges. Brokers are financially responsible for the fulfillment of deals struck over the exchange, and are required to get insurance cover. Contractual disputes are referred to arbitration, and awards can be enforced through the courts. So far no cases have gone to arbitration.

As with ZACA, the inclusion of smallholder farmers remains an important objective, but this requires dealing with the risk of performance failure (i.e. supplier default). For this purpose, ZAMACE is establishing warehouses where farmers can deposit their goods in safekeeping before offering them on the exchange. Six warehouse operators have already been identified and provided with initial training with a view to starting operations during 2009.

The warehouses will grade farmers' crop according to ZAMACE quality standards, rebag, weigh and aggregate it into commercially viable lots. Farmer groups depositing less than 30 tonnes will get a Goods Received Note (GRN) which authorises the warehouse operator to immediately sell the goods through a ZAMACE- registered broker, while those depositing over 30 tonnes will get a warehouse receipt (WHR) which allows them to store the commodity until such time as they wish to sell, which they can do through a ZAMACE broker. However storage charges will initially be very high - a figure of US$ 20 per tonne-month was mentioned, compared to international warehousing rates of the order of $2.50 per tonne-month, placing farmers under pressure to sell the commodity quickly. ZAMACE feels this is necessary to attract operators into the warehousing business, and enable them to cover basic costs of insurance etc. in an environment of uncertain demand. It also believes that farmers will find this acceptable, as they will be entering a premium market for quantity and quality assured grain and will consequently earn much higher prices. They will be able to eliminate discounts that millers typically apply to grain of 'small-scale origin', and cut out margins of middlemen operating between the farmer and the end user. As more warehouse operators enter the business, they will have to cut

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39 Main commodities traded to date are maize, wheat, soybeans, fertiliser and maize meal
40 Members were supposed to do all trades through the exchange but were not in fact were doing this.
The rules had been recently been amended to the effect that they were required to register all off-exchange trades and pay the required commissions to ZIMACE

41 This document (not seen by the author) provides for the following. The broker must provide evidence of US$ 50,000 in net worth, and professional indemnity insurance that will cover ZAMACE for three incidents costing US$50,000. PI covers default on contract but not fraud - members declined this on the grounds that they are already paying for fidelity guarantees.
42 ZAMACE is also developing a 'community shed' model in conjunction with the Japanese NGO PAVIDIA, a very small rural shed which only provides the GRN service, and is designed to feed product to district warehouses.
warehousing charges until such time as it becomes viable for depositors to store for lengthy periods and obtain post-harvest finance through warehouse receipts. However ZAMACE’s initial strategy is to ensure that WRs gain credibility in the trading environment first as a document of guaranteed quantity and quality before taking it to the financial sector. ZAMACE believes this initial focus on the WR as a trading rather than a financing tool lessens the immediate regulatory requirements for the WRS.

At the time of the author’s visit, 12-19 May, ZAMACE was preparing for this component of the project. Warehouses were identified, operators were being trained, but there was still much to do, including the drafting of rules and contractual terms covering the relationships between the depositors, warehouse keepers and ZAMACE, in advance of the annual harvest, starting in June.

It is still necessary to push through the amendment to the Agric Credit Act. Lawyers and bankers have identified various problems with the existing legal framework, and this is discouraging lending against warehouse receipts. Box 2.1 outlines the main difficulties noted. The biggest problems are (a) that the Agricultural Credit Act passed in the 1990s made it mandatory for a lender to search the Agricultural Credits registry for prior charges, a procedure which can take weeks, given the poor state of the Agricultural Charges Registry, and; (b) there is no convincing penalty for parties who sell their crop without repaying loans. This defeats one of the key aims of the WRS which is to facilitate rapid lending against warehouse receipt issued by a duly inspected and licensed warehouse.

The draft amendment makes no provision for mandatory licensing of public warehouses, in contrast to most national WRS laws. This may prove a weakness preventing the prospective warehouse licensing authority from generating sufficient income to cover its costs.

**BOX 2.1: WHY ZAMBIA NEEDS TO AMEND THE AGRICULTURAL CREDIT ACT**

(some key points according to Corpus Globe legal consultants)

1. The Agricultural Credit Act made it necessary for a prospective lender against warehouse receipts to search for prior charges, including floating charges. This could take weeks, unless the charge was registered recently.

2. Whether the lender has a fixed or floating charge, the borrower can sell the crop, on condition that he notifies the buyer that he has an agricultural charge. The only penalty for not advising is a fine, and the buyer gets good title.

3. Zambian banks don’t want to create a situation where farmers could defeat an agricultural charge by depositing goods in a warehouse. The draft Amendment therefore requires the warehouse operator to check that there is no charge against the crop. This is an unusual amendment; in most countries it is the lender's responsibility to make such checks.

4. The draft Amendment requires more information to be disclosed when charges are registered.

5. Other legislation prohibits information being available on defaulting borrowers, which in turn prevents a credit reference bureau from using the information. The draft Amendment requires information to be made available to licensed credit reference agencies.

**Conclusions**

While it was not possible to obtain any written report on the causes for ZACA’s demise, it has been possible to piece together a picture from interviews. The immediate cause for of ZACA’s collapse was mismanagement, but there were a number of deeper problems behind this:

- **An unsupportive policy framework.** Large-scale public procurement and interventions in the import and export trade reduced ZACA’s scope of action. From 2006 onwards, FRA massively increased its maize procurement to the figure of 400,000 tonnes procuring through a cooperative channels, notwithstanding management problems and storage losses. Despite many representations, no progress was made in pushing through the proposed amendment to the Agricultural Credit Act, a subject crucial to the participating banks. Turning WRs into negotiable instruments would have considerably facilitated lending decisions and enabled
trading in the same, along South African lines, but this did not materialise.  

- **Poor harvests.** The volume of product available for storage has also varied widely according to the state of harvests. This was particularly evident after the poor 2002 harvest and in 2005 when the level of stockholding by ZACA-certified warehouses slumped to zero.

- **Key stakeholders not actively involved in the governance of ZACA.** The Board became largely inactive; both the Zambian National Farmers Union (ZNFU), which represents commercial and smallholder farmers, and the Bankers' Association of Zambia (BAZ), were on the Board, but appear not to have taken a very active role.

- **Donors losing focus.** As ZACA evolved and more donors became involved, it increasingly assumed the quality of a 'development project' intent on the immediate reduction of poverty, and this explains the heavy emphasis placed on establishment of warehouses to serve smallholders, hi the year to Sept 30, 2005, ZACA held 62 training sessions for small 161 groups comprising 3,569 small farmers. Notwithstanding the worthiness of this cause, it seems to have been pursued at the expense of other needs, i.e. to maintain the interest and commitment of key stakeholder groups and good governance (involving the stakeholder representatives), both of which required priority attention to the ensure ZACA's survival through a period of unhelpful public policies, poor harvests etc. Moreover, smallholders did not respond very vigorously to this promotion, often preferring to sell to FRA, and the banks remained apprehensive. In mid 2006, the author visited ZACA and collaborating agencies in the company of a Ugandan trainee and noted significant shortcomings. More recent comments from staff, technical assistants and donors suggest that donor coordination was weak, and there was a general lack of follow-up to see how the money had been employed.

Despite its demise, the ZACA initiative demonstrated that such a system, properly structured and supported, was potentially viable, and that farmers could use it to trade with processors and obtain finance from a range of banks. Promoters of ZAMACE argue that ZACA's fundamental problem was the lack of a system of valuing commodities on the market. With Zambia's short-term and opaque trading environment based on margin, there was little incentive to store the crop, and even less to speculate on future prices with costly financing. It was first necessary to establish a strong and transparent trading environment that fosters volume, security and some elements of 'predictability' over time (such as ZAMACE is seeking to establish with its trading floor), that could provide a value to the commodity and ensure the off-take of products held on warehouse receipts. The WRS was therefore a "derived service" once the market starts to make the transition to a more transparent, volume-based transaction structure. In the author's view, the development of a vibrant exchange would certainly have made it easier to establish the WRS, and may do so in the future, but there is lack of evidence as to whether an exchange is a precondition for an effective warehouse receipts system, or vice-versa. The most decisive constraints on ZACA, and those leading to its closure, appear to lie in the areas of policy, stakeholder commitment, external support and governance.

While many operational details remain to be worked out, some features of ZAMACE give reason for optimism. The donor contribution looks more focused and private stakeholders are more involved both financially and in governance. There are also two positive off-take factors, the existence of an exchange-trading mechanism and WFP's willingness to buy all its food requirements through the exchange instead of its traditional approach of tendering with mainly large-scale traders. Indeed there seems to be some good teamwork around ZAMACE, involving the USAID/PROFIT Project and the World Food Programme (WFP). However, there are also some challenges:

- **a) The leading farmers' organisation (ZNFU) has some reserves about ZAMACE and is not a fully integrated into this team; this is a pity because farmers, including commercially-oriented smallholders, are the greatest prospective beneficiaries of an efficient commodity exchange. At the time of the author's visit, ZNFU was lobbying hard for high Government (FRA) producer prices, well in excess of export parity. While some surplus-producing farmers will gain from high FRA prices in the short run, ZNFU needs to focus on the development of marketing structures that will serve producers in the medium to long term, including a warehouse receipts system that will allow...**

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43 Public sector reticence towards ZACA was sometimes justified on the grounds that it only helped large-scale commercial farmers, but that critique persisted even as ZACA prioritised the targeting of smallholder farmers in its outreach, suggesting other motives at play.

44 The following was noted at this time: the website was completely out of date; regulations had not been updated and several of them were not being enforced; however ZACA was requiring things of warehouses not supported by the regulations; there was significant staff turnover at the banks during the poor harvest year of 2005, but there had been no refresher training to keep them on board; there was a lack of evidence that warehouse operators had purchased bonds as required under the regulations. Various players stated that ZACA was not doing enough to promote its services.
farmers to participate in seasonal price movements. With IFAD assistance, ZNFU has already established an interesting and apparently successful SMS system which is helping buyers and farmers to strike deals, and it would be good if it could to treat ZAMACE in the same light. Indeed if ZAMACE takes off in a big way it will provide added value over and above the SMS, including up-to-date information on prices, grades and volumes of consummated trades.

b) While WFP can help kick-start ZAMACE’s activity, an improvement of the political situation in Zimbabwe will drastically reduce demand for relief food in that country. ZAMACE therefore needs to get commercial millers and other large buyers (some of them ZAMACE seat-holders) to make more use of the trading floor.

c) Certain aspects of public policy remain difficult though there are some positive signs. FRA is to purchase 110,000 tonnes of maize in 2009/10 and hold it off the market for the whole year, a positive move proving some reassurance to private position takers. Cabinet is shortly to present to Parliament an ‘Agricultural Amendment Bill’ which subsumes the proposed amendment to the Agricultural Credit Act, and it has made a warm policy statement in favour of ZAMACE. Hopefully it will nominate it as its agent responsible for licensing and inspecting agricultural warehouses under the Act, and in this way foster the development of a strong indigenous warehousing industry. Linked to this, it can divest itself of warehouses and manage its reserves in the form of warehouse receipts.
ANNEX 3: MALAWI CASE STUDY

Background

The main food crop is maize, followed by cassava which is mainly produced and consumed in lower areas adjacent to Lake Malawi. Maize is harvested annually around June-July, and according to official figures, annual production has averaged 3.3 million tonnes between 2007 and 2009, up from an average figure of 1.8 million tonnes for 1997 to 1999. Major cash crops include tobacco and tea, cotton, sugar cane, macadamia nuts and groundnuts.

This is a densely populated country with approximately 14 million largely rural inhabitants, many of whom are land-constrained and have had difficulty in feeding themselves. Food policy (or rather maize policy) is a highly sensitive issue, both in terms of food security and politics. The subsidisation of inputs, i.e. fertiliser and seed, has become central to the policy of Malawian Governments and has been supported by donors, either explicitly or implicitly through the medium of budgetary support. The scale and cost of this programme has grown vertiginously to the point where in 2008/09 crop year it cost around Kw 40 billion ($276 million), excluding the cost of Ministry personnel and transport; the subsidy element was about 90% of this cost. The programme has substantially increased production and rendered the country more self-sufficient in maize, but some parties doubt the amount of increase claimed and the cost-effectiveness of the approach adopted.

The country has a 60,000 tonne National Food Reserve (in maize), co-managed with donors (notably the EU and member States) who are committed its replenishment. Recently, Government has unilaterally increased the amount held to 100,000 tonnes and has plans to raise it further, to 200,000 tonnes, during its current term.

The Food National Food Reserve Agency (NFRA) was founded in 1999 with EU support, but was badly mismanaged in its early stages. However, the physical handling of the reserve has greatly improved in recent years, and management has reduced physical losses to very low levels. The Agency is in the process of building three 20,000 tonne silo sites, so as to expand its storage capacity from 340,000 to 400,000 tonnes including warehouses, some of which are leased to the private sector.

Of greater longevity is ADMARC, Malawi’s parastatal concerned with crop procurement and distribution. At the peak of its operations ADMARC had a staff of 10,000, but by the beginning of 2006, the number had fallen to 3,200, though it also employed seasonal workers to operate the fertiliser subsidy programme and the distribution and sale of maize. ADMARC has substantial central storage capacity for maize, a large number of purchase and distribution depots scattered round the country, and a range of ancillary functions. ADMARC has been a recurring source of anxiety to donors, particularly the World Bank, concerned about its being required to fulfil wide ranging functions that make it being a major drain on the budget. The cost was particularly high in 2008, due to politically driven operations that also affected NFRA. Since the 1990s, the World Bank has funded various studies to find ways of more clearly defining ADMARC’s social functions, but without reaching a clear consensus with Government as to the way forward, except as regards the sale of extraneous assets such bus companies and bank shares.

Malawi has natural trading relationships in food commodities with its immediate neighbours, notably Mozambique, Tanzania and Zambia, as well as South Africa and Zimbabwe, and the development of this trade should be an important component of a country’s approach to price stabilisation. Governments frequently impose prohibitions on the import and export of maize and other commodities, but these measures have sometimes proved counterproductive, exacerbating rather than moderating domestic price instability, deterring private sector players from developing longer-term trading relationships and encouraging trade to develop, in as

45 Source: NFRA
46 According to Baker and Warren (2006) ADMARC has 355 facilities, of which 20 are capable of storing more than 5,000 tonnes. They refer to numerous reports alluding to the deteriorating condition of these facilities.
47 the Bank has argued in favour of ADMARC being subsidised to serve a social function in outlying areas Government and deterring the development of efficient private marketing channels.
The World Bank and DFID have sought to encourage Government down a different path through the use of ‘contingent contracting’. The gist of this approach is for Government to purchase over-the-counter Call Options that will allow it to access reserve stocks if prices rise above a pre-agreed price by a pre-agreed date. By doing this it defines a clear space in terms of price and time in which it can allow private traders to engage in unfettered trade. There was one successful import-related operation in 2005, a pilot where DFID paid the premium, but similar export-related operations in 2007 and 2008 did not materialise.

This experience and subsequent events raise a question as to whether it is possible to implement such complex technical operations in a highly politically-charged environment of the kind Malawi has been experiencing. Despite the announcement of a 600,000 tonne surplus, maize prices rose extraordinarily fast after the 2008 harvest and Government took radical action, declaring that all maize must be sold to ADMARC and rendering all private trade illegal, and went on to ration supplies to consumers. Market prices in Blantyre peaked at $700 per tonne for maize, vis-à-vis an import parity price of US$ 450 per tonne. In practice Government is unable to enforce the prohibition on internal trade, but the measure deters activity and paralyses investment. The measure was still in force when the author visited in May 2009, though it was expected to be relaxed in the light of an imminent bumper harvest.

At the same time, Government had established a farm-gate minimum price of Kw 50 per kg, about US$ 345 per tonne at the official rate of exchange (Kw 145/US$), seriously out of line with local prices in rural markets which at the time of my visit were reported to be around Kw 22 per kg, as well as regional prices. If Malawi wanted to export maize to Zimbabwe, in competition with South Africa, it would need to land the commodity there at no more than $260 per tonne – the corresponding price at origin net of freight and handling would have to be no more than $180. The price caused an outcry from traders, and Government proposed for consideration the establishment of a ‘Grain Marketing Advisory Council’ to set grain prices at which Malawian exporters could buy with a view to export.

Malawi has two commodity exchange initiatives, one called the Agricultural Commodity Exchange for Africa (ACE) and the other Malawi Commodity Exchange (MACE). ACE has fourteen members of which eight are large traders and the remainder organisations representing and/or supporting producers. It has established an electronic platform but has not so far been able to gain traction. In addition to the policy constraints specific to Malawi, ACE shares a problem with other African exchange initiatives, i.e. a difficulty in ensuring contract performance. As a result of this problem, ACE is seeking partnerships with organisations that can establish small rural warehouses where farmers can deposit products, and have them graded, prior to sale through ACE. One such partnership is with the RUMARK project which is supported by CNFA, an American NGO. ACE will train RUMARK ‘Agro-dealers’ to become output brokers, and the Grain Traders and Processors’ Association (GTPA) will audit their warehouses. MACE is for present focusing on the provision of market information making use of marketing information centres (3), rural mobile weekly information points (6), SMS, interactive voice media service (IVMS) and other means.

Notwithstanding the establishment of official prices, farmers and consumers face a reality of widely varying market prices. One frequently mentioned problem is that “most farmers are selling maize at harvest time and having to buy back at high cost in the lean season”, often requiring the grain to be brought back from urban storage at considerable expense. According to one leading trader this movement in and out of rural areas causes an additional cost of $120 per tonne. The information is anecdotal, and the only quantitative information known to the author is a nationally representative survey that showed that 7% of rural households do this (Thom Jayne, Michigan State University; pers. comm.), not as widespread as the anecdotal information suggests. However the phenomenon clearly exists, and the Government-sponsored inputs programme is probably accentuating it, as it increases the use of high-yielding semi-dent hybrid varieties that are more susceptible to storage losses than traditional flint varieties. Hence, increasing rural crop storage becomes an important aim of public policy. If rural people can hold more grain until the lean season, they will have the option of selling locally or to outside markets.

48 Tschirley and Jaye (2007, p12-16 and 24-25) provide a detailed analysis of the impact of public policy on pricing in Malawi.
49 The experience is described in the annual report of the World Bank’s Commodity Risk Management Group (CRMG, 2008)
50 Some dispute over this figure; one source says Kw 30 per kg, but still well below Kw 50 per kg
buyers. The mere availability of more grain, *whoever holds it*, will tend to moderate lean season rises at village level.

The problem of ‘overselling’ results in large part from farmers needing to satisfy cash-flow needs, but may also result from their selling early to avoid the prospect of high storage losses. Hence solutions to this problem may be either financial (i.e. financial support to hold stock off the market), technological (technologies which allow farmers to store without loss) or both.

**Relevant initiatives**

1. **Proposal to restructure ADMARC and establish MAWTCO**

GoM’s negotiations over the future of ADMARC led to the promulgation of a key Cabinet Paper of January 2006, providing for the reorganisation of the company along the following lines:

   a) a new private sector enterprise would be established called "The Malawi Agricultural Warehousing and Trading Company" (MAWTCO) to deal with ADMARC’s present commercial aspects including agro-processing and develop the WRS
   b) ADMARC would be slimmed down and empowered to carry out its original mandate of marketing smallholder farm produce and inputs in rural areas, and to commercialise its ancillary activities, concentrating on areas that are not easily accessible and not attractive to private traders, and
   c) ADMARC would be bound to procure at pre-announced Government procurement prices.

The same Paper says that ADMARC should ‘stand on its own feet’ and survive without Government bail-outs. This sits uneasily with its dual obligation to focus on unprofitable business and pay Government prices!

Consultants recruited to look at the privatisation and commercialisation of ADMARC51, recommended transferring 200,000 tonnes of rehabilitated storage capacity to MAWTCO, which would focus on leasing well-maintained storage facilities to operators, including both large-scale traders and processors as well as umbrella organisations for farmer groups, who would provide reliable third-party warehousing. In practice there has been no clear consensus as to how MAWTCO should be constituted, and discussions continue. The consultants recommended MAWTCO have a lean management structure, and that its Board should represent key sector players including bankers and insurers. However, when the author visited in May 2009, Government had decided that MAWTCO would be a subsidiary of ADMARC, which seems to defeat the original objective of reducing the size of ADMARC and its impact in the rural economy.

2. **Proposal to establish a regulated WRS**

As a result of discussions about ADMARC reforms and the establishment of MAWTCO, the World Bank contracted a team to develop an operational plan for a pilot WRS, to be considered by a national Warehouse Receipts Task Force. The team52 proposed a pilot involving the establishment of a series of centrally-located warehouses each with capacity of 10,000 tonnes and more. Farmers would interface with a range of rural stores which would either be operated as satellites of the WRS or under other auspices (e.g. as ‘Grain Banks’ managed by local POs together with NASFAM); however, these stores would not form part of the warehouse licensing system. The implementing agency would be the Grain Traders and Processors Association (GTPA), an organisation registered in May 2006 and which currently has some 105 paid-up members. GTPA would acquire or outsource specialised expertise and its administrative capacity would be strengthened. It would also be tasked to become the Administrative Agency for the commercial warehousing system within the private sector, i.e. it would license warehouses and act as sort of non-Governmental Regulator, along the lines of ZACA in Zambia.

Significantly the consultants concluded that it was possible to start the WRS without first pushing through legislation providing for transferability and negotiability of warehouse receipts. Lenders could readily circumvent possible problems with their collateral rights on grain of small-scale farmers in commercial warehouses through REPO, or repurchase, financing.

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51 Belmont Management Consultants Ltd. and O&M Development Consulting, 2007
The proposals have the merit of focusing on the licensing of large-scale warehousing operations; it is only with such large units one can hope to generate the revenue (user fees) to cover the cost of regulating a fully-fledged WRS. However, this project has not in practice been implemented, due to lack of interest on the Government and donor side.

3. Large traders proposing to offer warehouse receipting services

Significantly, two large trading companies are seeking to provide warehouse receipting services on their own. Farmers’ World has obtained Dutch Government co-funding for a 12,000 tonne grain handling facility on the understanding that it will implement the WRS. The company has a chain of 115 shops across the country supplying agricultural inputs, cement, sugar and salt, and has a turnover of US$ 150 million. It is already storing maize on behalf of a feed-miller, and is offering this to other players along with brokerage services. It is now planning ‘decentralised storage facilities’ where it can offer farmers the alternative of outright sale or storage for a fee, linked to its shops. SENWES, one of the two largest South African grain traders and warehouse operators, has established an office in Malawi, and is currently seeking to establish a warehouse receipting service on a similar basis.

NFRA is also providing some limited storage services to commercial players, and could increase its activity in this area and issue warehouse receipts.

4. Rural storage and bulking initiatives

There are currently various other initiatives seeking to enhance rural storage and local bulking of surpluses, as follows:

- **Hermetic storage technologies.** The Ministry of Agriculture is disseminating the use of family-sized galvanised-iron silos using the _post-cosecha_ technology which was implemented massively in Central America. A variant of this approach has also been massively implemented in Swaziland. More detailed information is provided in the Sub-Annex below. The author believes that this technology needs to be supported by a suitable ‘social marketing’ package, including financing for farmers who wish to acquire the silos, and for this purpose has linked the Ministry to Opportunity International Bank that may be interested in collaborating on a joint project.

- **OIBM initiative.** Since 2005, Opportunity International Bank of Malawi (OIBM) has structured an agricultural lending portfolio which has grown very rapidly, progressing from US$ 0.5 million in 2006/07, to $1.5 million in 2007/08, to $4.9 million in 2008/09, and with a projected $10 million in 2009/10. Clients are typically farmers producing a cash crop like tobacco, along with maize, groundnuts or soya, by hand cultivation, organised into joint-liability groups of circa 10 farmers, and enjoying the support of an independent extension service, which is funded on a cost-sharing basis. Farmers are individually profiled, using interviewing and GIS, with a view to ensuring their ability to perform as planned. OIBM indicates that its agricultural schemes are allowing farmers to realise large productivity gains, and that loan recovery has grown from 93% to 99% over the period. It services the communities with mobile banking, and by providing clients with smartcards with biometric recognition.

  OIBM is now planning to support two pilot ‘warehouse receipting’ initiatives, one at the Millennium Village near Zomba (where there is a substantial warehouse of circa 1,600 tonnes capacity) and the other Kafuli, which will serve the dual purpose of helping farmers maximize benefit from their maize production, while minimising side-selling of loan-financed maize. Details of these schemes had still to be worked out but they looked like a form of cooperative marketing. The warehouses would be controlled by farmer associations that would bulk up members’ commodities, store them and sell them in the lean season, either for local consumption or to outside buyers, and provide farmers who have deposited there with a second payment based on the prices achieved. Cooperative marketing has been tried in the past under many guises, but what is interesting about this initiative is its association with a strong micro-finance organisation like OIBM, which should be able to ensure a high level of financial and managerial discipline.

- **USAID ‘grain bulking centres’ initiative.** USAID is putting out to tender a two-year project to establish 18 to 20 “strategically located and certified grain bulking Centres” with capacity of 200-300 tonnes each, in northern, central and southern Malawi, with the purpose of bulking maize, soy, groundnuts, and beans and linking associated producer organisations to suppliers of market services. The idea is to convert existing rural trade intermediaries (e.g. agricultural input suppliers) into more versatile and cost-efficient service
operators who can offer a ‘one-stop service’ to farmers including input supply, marketing, storage and eventually financial services including insurance, and build strong local networks of trust among the players. Government, traders and farmers would use the centres to access information on certified quantities and grades of commodities held at the centres.

Farmers will either sell the grain to the Centre at current market prices, or deposit it for storage, to be sold later or withdrawn for personal use. All grain will be weighed and graded, a receipt issued and a storage contract signed. Small start-up grants will be provided on a cost-sharing basis, so as to enable prospective operators to upgrade or expand their storage facilities, or as operating capital. Each operator must get his Centre licensed by a certifying agent to ensure the facility is properly secured, insured and fit for storage, and verify that he/she is operating according to the rules, notably holding stocks according to stated grades and standards.

The approach looks conceptually sound, and one which seeks to mimic the way strong rural merchants have evolved elsewhere. Moreover the certified Centres may develop into fully fledged licensed warehouses under a national WRS. However a feasibility issue needs to be addressed: how much will the certification service cost, and can this cost be covered through levies on warehouses in the foreseeable future? The project’s two year time horizon is too short to achieve anything sustainable, and assuming the feasibility question can be answered, it is to be hoped that USAID can put it on a longer term footing – at least five years. The rural intermediaries running the Centres will be expected to adopt a new business paradigm and perform according to stringent set of rules; this requires an assurance that the certifying agency is there for the long-term, both to support and ensure compliance. Failing that, some intermediaries may be tempted to comply just enough to access the start-up grants.

- **NASFAM ‘grain banks’**. NASFAM has 41 affiliated farmer associations, with around 100,000 members largely devoted to production of cash crops. Associations increasingly found their members experiencing food security problems and this has led fourteen of them to establish grain banks, i.e. stores which buy and store grain for local consumption or market disposal. It was not possible to get much information on this scheme, though one bank was mentioned as having stored 80 tonnes.

**Conclusions**

Despite the merits of the GTPA/SENWES proposals, there is not presently a strong case for establishing a national regulated WRS. The main difficulty is the high level of Government intervention, which makes returns to storage of maize uncertain, and the potential for outright prohibitions on trade. The volume of other non-perishable food crops is relatively small, which renders somewhat difficult the economics of establishing a regulated WRS without maize. According to FAO statistics, annual production of pulses is around 350,000 tonnes per annum, including pigeon peas (140,000 tonnes). The incumbent Government has just won a landslide election so it is unlikely that it will rethink its approach in the near future. MAWTCO would need to provide much of the warehousing capacity, but this will only form a sound basis for the WRS if run on an autonomous basis, free from day-to-day intervention ADMARC or other public authority; this also seems unlikely. At the same time there does not appear to be a strong private constituency in favour of the system.

It is possible that large trading companies such as Farmers’ World and SENWES can establish viable (unregulated) pilots, though it needs to be seen how these work out in practice and whether they can provide a quid pro quo for donor funds invested in them. If they are successful and other companies seek to replicate their initiative, the country will eventually need a regulatory authority to establish common standards and protect the interests of depositors and financiers.

While prospects for a WRS are currently poor, there remain problems of price instability and market integration. It is possible that some of the above initiatives will provide the basis for some longer term improvements in grain marketing. However they are at the design stage, some aspects still need thinking through, and they will need a lengthy time frame (5 years +) for thorough implementation, monitoring of adoption, evaluation, re-focusing etc..

Under these circumstances, it is proposed that UNCTAD or its AAACP partners periodically monitor and evaluate progress on these initiatives with a view to evaluating which works best in different parts of the market chain. The main projects would be:
• Grain Bulking Centres and similar initiatives
• Unregulated commercial-scale WRS: Farmers’ World, SENWES and/or others
• Home storage innovations, involving new hardware, or improved handling and pest-control procedures

These projects should be appraised in terms of various criteria, of which the most important are spontaneous adoption by paying users, cost recovery and cost-effectiveness. As with all new products, the adoption pattern tells us much about the utility of the innovation to prospective beneficiaries. As for cost recovery, certain innovations may need to be subsidised in the early stages, but there should be a regular assessment as to whether the sponsoring agency has a viable exit strategy.

Sub-Annex: Hermetic storage technologies

The Ministry of Agriculture is disseminating the use of galvanised-iron silos using the post-cosecha technology which was implemented massively in Central America, where circa 564,000 units are estimated to have been delivered to farmers (mainly purchased) between 1980 to 2008. Silos were transferred on a variety of terms, ranging from full cost cash sales to outright donations. An evaluation team contracted by Swiss Development Cooperation in 2002 estimated that donors had subsidised the silo at an average level of 40% of effective demand. The capacity of the structures promoted in Malawi ranges from 500 to 1,800 kg. The key attribute of these silos, and some other technologies including the ‘triple-bagging’ approach which is currently being promoted for cowpeas in West Africa, plastic tanks used in Namibia, and grain cocoons, is their ability to provide a hermetic storage environment. In such an environment, the absence of oxygen causes or assists the death of insects and prevents storage losses. In Central America, farmers also fumigate the grains held in these stores (using aluminium phosphate tablets), so as to guarantee a kill of insects and larvae; the promoters of the technology supported this because they found that with suitable training and after-sales follow-up farmers could safely fumigate the grains at their homes. Meanwhile the physical structure of these ‘hermetic’ stores provides protection against rodents. Technologies of this kind allow people to completely prevent storage losses, and hold stocks back with a view to supplying home needs or market requirements in the lean season, when prices are higher.

With the support of FAO, the Malawian Ministry of Agriculture has trained some 160 local artisans to make the silo, and during 2008, had 600 built and distributed to different villages for demonstration purposes. The Ministry reports that there is significant spontaneous demand from farmers, some of whom can afford to buy them; they have linked over 300 farmers to artisans for this purpose. The main constraint is the price – the silo of smallest capacity (500 kg) costs Kw 20,000, which is about US$ 138 at the official exchange rate of Kw 145 per US$.

Such technological solutions will work with individuals who have the means to purchase the technology and keep the silo full for six months or more. While the price makes acquisition difficult for most small farmers, the technology may still serve to moderate price swings in rural areas, as long as some people buy it. It is the ‘aggregate supply’ of grain in given locations, as opposed to who owns the grain that most influences the price; the more the aggregate supply, the lower the lean-season price. Moreover, the technology may have considerable potential with producers of cash crops like tobacco and tea or even non-farmers (teachers, public employees etc.), enabling these to secure their annual food supply when it is cheapest and concentrate on the production of profitable cash crops. These players often have sufficient income to purchase the silo outright, or in two or three instalments.

To fully develop the market, this product needs to be marketed as a consumer durable, with a combination of:

• promotion and consumer education, in support of artisans who manufacture and sell the product
• on-going technical and financial support to artisans
• strict quality control, to ensure that silos are made and used as required
• a suitable financing (i.e. hire-purchase) package, and
• monitoring of sales and market penetration

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53 See PostCosecha website at: http://www.postharvest.ch/en/Home/Knowledge_Network/Ongoing_POSTCOSECHA_Programs/Central_America
With this in mind the author has put the Ministry in contact with a micro-finance organisation, suggesting they collaborate on this project and get together a small ‘social marketing group’ committed to developing the market in Malawi.

ANNEX 4: MADAGASCAR CASE STUDY

Background

This annex relies on written sources supplemented with information and observations the author gleaned during a week-long visit to Madagascar, spent in the capital, Antananarivo and the Lake Alaotra region.

Madagascar has about 18 million inhabitants, and its dominant food crop is rice (130 kg per head per annum) followed by root crops (cassava, sweet potato and potatoes), sugar cane, maize, beans and groundnuts. The main cash crops are spices, coffee, cotton and sisal, but less than 20% of households are involved in producing them.

Most paddy is harvested between April and June, and by 2006 annual production had reached around 3.5 million tonnes which, after allowing for seed and wastage is equivalent to about 2.1 million tonnes in milled rice. Production of paddy grew 2.4 times during the 32 years from 1964 to 2006, but population grew by a factor of 3. Consequently the country has run a deficit, typically in the range of 150,000 and 200,000 tonnes, and filled by imports. Reduced per capita availability of rice has been largely compensated for by increased production of cassava, a lower cost staple.

According to a 2001 household survey, 76% of all households are rural based, and of these 25% are net sellers, 14.5% are self sufficient and 60.5% are net buyers of rice. Expenditure on rice accounts for more than a third of poor households’ food budget.

Rice production has not been intensified along Asian lines. According to an account dated 2002, it relies mainly on the use of hand-tools, and remains very small-scale. Mechanised farms account for less than 2% for the total cultivated area, while less than a third of the farmers use animal traction in regions where it is feasible. In irrigated agriculture the use of inorganic fertiliser had fallen from around 15 kg/ha in the 1970s to 5 kg/ha in 2000, which is about 1kg/ha in terms of the total area cultivated. The progressive subdivision of properties hinders water management, while in higher, rain-fed areas, there is considerable erosion and stagnation of yields. These features are in turn attributed to serious constraints in the areas of: (a) basic education and technical training – with regard to the former, only 16% of rural children finished primary education (premier cycle), and less than a third of school-age children could expect to become sustainably literate; (b) land tenure, and; (c) commercial and financial linkages. The microfinance initiatives described in this Annex focus particularly on constraints in the later area. Rural poverty and the poor state of agriculture are reflected in high levels of indebtedness among rural populations, and reliance on money lenders who lend at annualised rates of between 100% and 400%, or agents of large traders who advance money against the delivery of crops at harvest time at an implicit rate of between 10% and 20% per month.

Imports account for a very large part of urban consumption, and it is therefore the price of imported rice that mainly determines the level of local market prices, particularly in the lean season, from November to March. However, this relationship between imported prices and domestic prices has sometimes been disturbed, notably between 2004 and 2006, and the World food crisis of 2008. In the first period Government intervened to moderate lean season consumer prices but this had the effect of discouraging private trade and storage, leading to further price instability. Both farmers and importers misread the market in 2005 causing them to suffer speculative losses.

In 2008, there was a major, but short-lived, price hike between March and September, with import parity prices peaking at over $1,000 per tonne, double the prices of domestic rice. However, this surge was not transmitted to the domestic rice market. Various reasons have been advanced to explain this, notably that there had been a

55 Fraslin (2002) drawing on data from official sources
56 Fraslin (2005), drawing on information from diverse research sources
good harvest in 2007, so plenty of stock was available in the first quarter of 2008, a strengthening local currency and the elimination of VAT on imported rice in July 2008. Of equal importance however is the fact that international prices collapsed well in advance of the 2008/09 lean season.

Save in exceptional seasons like 2005/06, prices of paddy and milled rice have hitherto followed a predictable price pattern starting at a harvest-time trough around mid-year and rising to a peak in the first quarter of the following year. Farm-gate prices for paddy are believed more variable than Antanarivo prices for milled rice. Jenn-Treyer (2008) quotes data showing that prices for the local milled rice rise by an average of 25%, but Bouquet et al. (2009) find that 188 small stores operating under the GCV system described below recorded an average increase of 44% in the price of paddy between the times of storage and discharge for the years 2003 to 2007.

Last but not least, there have been severe tensions associated with regime change, both in 2001/02 and in early 2009. The first period had the most serious economic repercussions, largely paralysing transport, movement of goods and bank lending.

**Relevant initiatives taken**

**Development of mutual microfinance networks**

Rural bank lending is low and mainly channelled through agribusiness and traders who on-lend to their agents in the field. Already by the 1980s there was a realisation that the only way for financial institutions to lend to farmers at reasonable cost would be by grouping them through MF or other arrangements.

In order to see how MF has developed in Madagascar, it is first necessary to understand the difference in approaches adopted to the promotion of savings and credit cooperatives in Anglophone and Francophone countries. In East Africa, the typical rural MFI is a standalone Savings and Credit Cooperative Society (SACCOS), registered with the Government’s Department for Cooperatives. By contrast, Francophone countries have been heavily influenced by a (continental) European preference for fully-structured systems, where the local caisses are simply branches of regional unions, and these in turn federate at national level. Another difference is that these structured systems are more reliant on paid staff than are the East African SACCOS. The structured approach has been promoted vigorously in Madagascar, leaving less of the stage for those promoting other non-mutual approaches to MF as in the case of some other countries visited (e.g. Malawi).

Public policy supported this mutual approach from an early stage, and in 1996, a law was published governing the activities of mutualist financial institutions (i.e. saving and loan associations). Different regions were allocated to particular MFIs, and the Commission for Banking and Financial Supervision, Madagascar (CSBF) provided regulatory oversight. The zoning system was abandoned after the political upheaval of 2001/02.

Starting in the 1990s, MF lending has grown very rapidly, and by the end of 2007 the overall portfolio had risen to $53 million of which 40% in the agriculture sector; the main components of agricultural loans were crop storage (50%) and production (30%). Notwithstanding this growth, the level of market penetration is still quite low in rural areas, around 5%. Out of 1,500 rural villages, only 320 have access to MF services, and most of these are in more accessible areas (Fraslin, 2008).

Until 2005, it was the mutual networks that mainly developed microfinance, with three of them (OTIV, CECAM and TIAVO) accounting for 90% of clients. OTIV was predominantly a savings-based and urban-oriented network, while CECAM and TIAVO were rurally focused. The OTIV network has been growing very fast during this decade and by 2007 its share of total savings accounted for 72% of the total, and its share in loans 30%57. Since 2006, three new mainly urban players have supported this growth. There is now considerable competition in the MF industry, particularly in the more lucrative urban market, and also in some rural areas, e.g. the rice basin of Lake Alaotra.

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57 spreadsheet data provided by Jean-Hervé Fraslin
The CECAM (Caisses d'Epargne et de Crédit Agricole Mutuels) network

*How the system was set up and works.* The CECAM network is of particular interest, because it focused from the beginning on rural areas, in contrast with other networks which, similarly to the MF industry worldwide, focused mainly on urban clientele and avoided the relatively risky lending portfolios associated with seasonal agriculture. Indeed the network went as far to develop by-laws that discriminated in favour of farmers, by requiring that farmers comprise the majority and take the chair of all committees.

The first steps were taken towards the establishment of this network were taken in the early 80s, in area of the Central Highlands where farmers were producing vegetables in the off-season. A system of inventory credit was instituted that allowed farmers to hold paddy over from the harvest, and thereby better manage their food supplies. An IFAD project later provided support by building 10-20 tonne warehouses. A series of groups were carrying out this activity with technical assistance from a French NGO (FERT Association), and in 1989, they came together to form the FIFATA producers’ association. In 1993 they went on to establish the “Agricultural Savings and Credit Cooperative Societies” or CECAMs, with the support of FERT and the regional credit union of Rheims (France), RABOBANK (Netherlands), the Government of Madagascar and various donors. FERT and the Rheims union later merged to form an international NGO called ICAR. Since then French credit unions have provided considerable mentoring support to the elected members and staff of this growing network.

The local branches (or CECAMs) were subsequently organised into regional unions (called URCECAMs), and these registered as legal entities, but unlike the case of the East African SACCOS, individual branches were not registered. It was a structure that sought to balance local knowledge and professionalism. All loans had to be approved by a local credit committee composed of elected members, and this in turn had to ensure repayment by due date, or if payment was delayed, call for guarantors and seize collateral. On the other hand the system relied on professional staff including a local ‘adviser’ (*conseiller*) who would report directly to regional management, and all actions would be taken in the name of the union.

Two national Apex structures were also established:

- A national union called UNICECAM, a formal Apex representing the regional unions, and with a governing committee constituted by elected members. The role of UNICECAM is to lay down strategic orientations for the network. In 2000, CSBF recognised UNICECAM and affiliated regional unions as ‘Cooperative Financial Institutions’.

- INTERCECAM S.A., a limited liability company jointly owned by the CECAM network, foreign not-for-profit investors, Madagascan shareholders in that order. Until early 2008, INTERCECAM operated under a ‘Convention of Delegated Management’, by virtue of which UNICECAM delegated to INTERCECAM major responsibilities, including that of acting as banker to the network, overseeing its financial health, auditing, and the formulation of UNICECAM’s reports to the regulator (CSBF). It also ran an Inter-Regional Mutual Guarantee Fund (FIGAM) where regional unions could lay off certain credit risks INTERCECAM was approved as a territorial bank in June 2005.

Up to the end of 2003, the NGO ICAR managed INTERCECAM, but from 2004 to 2006 the network was to become financially and technically autonomous, with national staff assuming direction of all the components of the network including INTERCECAM, and without external technical assistance. The structure of the network is illustrated in Figure 4.1 on the next page.

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58 International Association for Agricultural and Rural Credit
59 41% belonged to regional unions of CECAMs, 34% of the shares belonged to a company called SAFA (jointly owned by French Regional Credit Unions and the NGO FERT) 5% belonged to the Rabobank Foundation, and 20% to local investors including a producer organisation, an insurance company, a microfinance provider and public sector body.
GENERAL ORGANIZATION OF THE CECAM NETWORK

2000 Balance: 26 Billion MgF
2001 Balance: 40 Billion MgF
2002 Balance: 47 Billion MgF
2005 Forecast: 80 Billion MgF

UNION INTER-REGIONALE UNICECAM
cooperative-directed structure, a control and representation
Central Body of the CECAM Network

ICAR
Grade-based Contract (2003 - 2005)

Technical Assistance

INTERCECAM
CECAM Network Central Agency
A limited liability company with a capital superior or equal to MgF 1 billion (USD 1 million)
Technical and financial functions
Refinancing management (credit lines) and guarantees (FRICAM), managed as a private commercial bank
with 8 URCECAM co-creants and share holders (36%), others share holders Malagasy (39%) and Foreign (34%) financial institutions.

8 URCECAM
Regional Cooperative Societies

170 local CECAM offices (forecast 2005: 190)

52,000 member share holders (forecast 2005: 80,000)
CECAM financing tools: There are five main types of credit designed to meet members’ needs within the agricultural production and marketing cycle:

1. Production credit which finances cropping or breeding costs over a 4-10 month period
2. Hire purchase finance for small farm implements, farm animals, domestic equipment or capital goods required by artisans and traders. The first security is the good itself, and there may additionally be a group guarantee.
3. Storage credit, channelled through what are known as Village Common Granaries (GCVs)
4. Social emergency credit, small credits repayable within two to four months
5. Commercial credit to individuals, and to agricultural cooperatives involved in the supply of inputs and the bulking of produce for market

Interest rates are normally 3% per month.

The CECAM network expanded very rapidly, and by 2003, had 170 branches in nine of the country’s twenty-eight regions and approximately 52,000 members. By the end of 2008, there were 162 branches (slightly fewer than in 2003), but the number of members had more than doubled to 110,000, of which 30% were women.

After the political change of 2002, regional exclusivities came to an end, and this ushered in a free-for-all among MFIs. The CECAM network moved into the Lake Alaotra region, which is the country’s leading source of surplus rice. Hitherto, it was the exclusive preserve of the TIAVO network (supported by Développement International Désjardins (DID) of Quebec, Canada) which had adopted a savings-led approach focusing mainly on urban populations. However, from 2002 onwards both networks concentrated on developing a rural clientele in Lake Alaotra region, with a similar mix of products to what the CECAMs had developed elsewhere.

The development of the network has depended on the injection of considerable external funds, on soft terms, which was partly covered by members’ share-capital (the part social). The latter consists of both fixed contribution, payable over 3-5 years depending on the region, and variable amounts that they contribute at a rate of between 2 and 5% of the amount borrowed. By Sept 2002, the value of this capital had increased to $1.2 millions, and constituted 16% of the network’s resources (capital and liabilities), and by the end of 2008 it had reached approximately US$ 5 million, or 30% of resources. Savings initially played a secondary role, but by the end of 2008 accounted for around $2.7 million or 17% of resources. Most of network’s remaining funds have come from borrowing, first from Government, the French Development Agency (AFD) and the EU, and more recently from the national clearing banks which have been willing to lend against the partial security of donor guarantees. At the end of 2008, total outstanding loans were approximately US$6.5 million or 39% of resources.

Acceptance of products. Storage and production lending have come to dominate the loan portfolio, but hire-purchase is also important. In 2008, storage loans constituted no less than 43% of the total loans made, up from 41% in 2007. Production loans accounted for 38%, down from 41%, and hire purchase was steady at 11%. The latter has been particularly successful in popularising the use of rotovators.

The different forms of lending tend to complement each other, a point underlined in research by Bouquet et al. (2007) through a two phase investigation (in 2003 and 2006), involving structured surveys and depth interviews. Out of a sample of 305 members, they found that 86% had used at least two loan products and 19% had used four or more, and noted that the combination of production and storage credit was playing a pivotal role. Members generally considered their combined availability to be a source of decreased risk, and the system was “relatively equitable to poor members” in terms of their ability to access credits.

Significantly, repayment rates are higher with storage credit than with other kinds of loans.
TABLE 4.1: RATE OF PEPPAYMENT BY CECAM LOAN PRODUCT

<table>
<thead>
<tr>
<th>Days delay in repayment</th>
<th>2001</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Production loan</td>
<td>73%</td>
<td>85%</td>
</tr>
<tr>
<td>Storage loan (GCV)</td>
<td>92%</td>
<td>97%</td>
</tr>
<tr>
<td>Hire-purchase (LVM)</td>
<td>78%</td>
<td>88%</td>
</tr>
<tr>
<td>Social loan</td>
<td>82%</td>
<td>92%</td>
</tr>
<tr>
<td>Commercial:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individuals</td>
<td>73%</td>
<td>84%</td>
</tr>
<tr>
<td>Legal entities (coops.)</td>
<td>71%</td>
<td>74%</td>
</tr>
<tr>
<td>Average</td>
<td>78%</td>
<td>87%</td>
</tr>
</tbody>
</table>

**Source:** SIG CECAM impact study report (2006), quoted by Bouquet et al. (2007)

The OTIV Union in Alaotra-Mangoro region has had a similar experience, and reports close to 100% reimbursement of storage loans, compared to 90% for other products, and only 80% of this by due date.

A dramatic change has taken place in the CECAM network’s approach to producer organisations (POs) involved in business like input supply and marketing of outputs. Central to the FERT’s and the CECAM network’s original approach was support to cooperatives engaged in these areas, and between 1998 and 2002, the network lent to some 70 organisations representing more than 5,000 farmers. However, by 2003, only about 15 of cooperatives were still active, above all commune level dairying groups (Fraslin, pers. comm., 2009). According to UNICECAM (pers. comm., 2009), lending to cooperatives constitutes about 1% of the regional unions’ portfolios, except in the Bongolava region where it still accounts for 5-7%. By contrast, the manager of the Alaotra union knew of no lending to cooperatives or groups.

**Current strategic and governance issues:** In various communications from December 2007, CSBF required UNICECAM to reassume the functions hitherto carried out by INTERCECAM under the ‘Convention of Delegated Management’, on the grounds that this was necessary under Banking Law and to bring the activities of the network under fully democratic control. Elected members of the apex organisations had already complained that the Convention gave the Director General of INTERCECAM too much power at their expense, and that the costs of this body were an excessive burden on the network. Nevertheless, the move was poorly received by the French Development Agency (AFD) and the EU which had been supporting the network, and feared that it put at risk previous achievements. More specific fears were expressed at the time of my visit, notably that the change would give the elected members too much power over the technical staff and day-to-day management of the network, and that the elected members would in turn be unduly influenced by regional and village elites, and it could lead to the recurrence financial irregularities. In January 2008, AFD put on hold its guarantee for the commercial bank lending, as well as long-term soft loan for Euro 2 million in January 2008. Notwithstanding agreement on certain interim financing arrangements there was, at the time of my visit, no overall agreement on the way forward.

Among the people I interviewed, there was remarkable level of consensus about the failure of POs to perform in these areas. There had been significant misappropriation of funds and apex organisations had often become politicised. As a consequence of this experience virtually all MFIs’ lending in Madagascar is to individuals, though sometimes with the backing of individual or group guarantors.
Some staff and former staff are equally concerned over governance issues, which they relate to leaders’ rather low level of education, sometimes poor leadership, conflicts of interests and occasions of financial irregularities.

Development of storage loans (GCVs) as a component of mutual microfinance networks

How the system works: The CECAM network operates a highly decentralised system, with large number of small stores. Most of them are simply rooms in members’ houses, usually not holding more than 10 tonnes of paddy. The management of UNICECAM estimates that there could be around 7,000 such stores in the network. Typically two or more depositors, often closely related, store together in the same structure, and provide a group guarantee covering each others’ loans. Most of the depositors are farmers but some also trade in the paddy.

In addition to these home stores, some farmers store in village warehouses (typically 50 tonne capacity) which have been built at different times with donor funds. These stores were previously managed by cooperatives, but there is now some conflict over their control, involving the Ministry of Agriculture, the cooperatives and MFIs. The OTIV Union in Alaotra-Mangoro region is making greater use of these central stores and is negotiating with a development project to build more. It pays for guards and requires insurance cover against fire and theft.

All the small stores must meet certain key criteria if they are to be accepted for storage loans. They must be secure, have a single entrance, have roofs of galvanized iron (thatched roofs can be accepted if special measures are taken), have a floor raised above surrounding land, accessible to the CECAM branch, be clean etc. The paddy must be dry and clean, with bags individually marked in the name of the borrower and stacked on some kind of dunnage to keep it clear of the floor. Rat poison must also be applied.

The basic procedures are as shown in Box 4.1

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**BOX 4.1: STORAGE LOAN PROCEDURES FOR PADDY IN THE CECAM NETWORK**

- At harvest time, typically the last week of May, the Union fixes a value or *quantum* it will advance against the stored crop. In principal this is 65-80% of the current market price for paddy, and 50% of other crops (interviews suggested that the level for paddy was sometimes being fixed as high as 85%)
- In the knowledge of the *quantum*, each farmer belonging to local storage groups makes an individual loan application at the branch, and these are considered by the branch credit committee composed of elected members. Requests for financing of 5 tonnes or more are considered at union level.
- If the applications are accepted, farmers store their products. The paddy must be stored clean and dry in standardized bags of 70-80 kg
- All storage is identity preserved and bags must be marked. This leaves the farmers with full discretion as to how they dispose of their paddy, and avoids disputes between them regarding differences in quality and moisture loss during storage.
- The stores must be approved by the local branch (CECAM), and closed with two padlocks, with one key remaining with the leader of the storage group and the other with the local credit officer (*conseiller*).
- To access the loan, the farmer fills in loan contact, and receives the loan
- He/she is free to use the loan for consumption, including family celebrations in the harvest period, or income-generating activities
- The local credit officer and warehouse borrowers’ representative must both be present when goods are deposited and removed from the store.
- There are three levels of oversight: (a) by the local watchdog committee (comité de contrôle) after completion of storage (and prior to disbursement) and then every two months throughout the
• The farmer must reimburse his/her loan between 5 and 10 months after receiving the loan, including interest at 3% per month, and before removing the stock from the store. The dates of reimbursement are scheduled in advanced and may involve repayment in up to four tranches, making it easier for the farmer to pay. In the rare event of default, the local branch can sell the borrower’s remaining stock to recover whatever it can, or require fellow group members to cover the debt.

Uptake and acceptance of the product: As indicated above storage loans account for about 40% of the network’s lending, though this percentage varies widely from year to year. Table 4.2 shows that the overall level of deposits trended upwards during the decade, peaking in 2005 when some farmers experienced losses, and then continued to rise after 2006, reaching almost 40,000 tonnes in 2008. The activity is concentrated in five of the nine regions in which the CECAM network is active.

TABLE 4.2 : CECAM NETWORK, DEPOSITS OF PADDY FOR STORAGE CREDIT (thousands of tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14.5</td>
<td>9.5</td>
<td>19.8</td>
<td>11.7</td>
<td>30.3</td>
<td>20.1</td>
<td>26.9</td>
<td>39.9</td>
</tr>
</tbody>
</table>

Source: 2003-2008 from UNICECAM; 2001-2002 authors’ estimates based on lending figures

Research by Bouquet et al. (2009), using the above-mentioned survey instruments, provides the following additional information about the use of storage credit:

• 80% of members were using it
• in 93% of cases it is combined with productive credit which is generally used for rice cultivation
• the loan proceeds are most frequently spent on off-season productive activity (31% agricultural and 41% non-agricultural)
• in 22% of cases, part is used to repay another CECAM credit (usually productive), and 23% use it to buy milled rice
• the access and use of the credit was independent of the level of wealth
• that it enjoyed the highest satisfaction rate of all the credit products (63%), just ahead of hire purchase (62%)
• important reasons for satisfaction include: the absence of material collateral (apart from the rice stock); the ease of the application procedure; flexibility in the amount, instalment and repayment schedules; trust in the system, and; ease of access to the stores
• members remarked upon certain constraints, notably the 3% per month interest rate and shortage of warehouse facilities
• food security was positively associated with having access to storage credit
• there was some risk of larger borrowers crowding out smaller ones in terms of access to the credits

The uptake of storage loans has been particularly strong in the Lake Alaotra zone where the combined storage financed by the CECAM and OTIV regional unions grew from about 500 tonnes in 2002 to nearly 15,000 tonnes in 2008. The OTIV union has a major advantage that it can borrow resources generated by its other largely urban unions where savings are typically twice the loan portfolio. The OTIV network provides storage credit in three other regions (Diana, Sava and Tamatave), but not on a comparable scale to the Lake zone.

82
The level of repayment has always been close to 100% with this product, notwithstanding losses that borrowers experienced in 2005/06. The usual motive for non-repayment was theft, whereby the store owner/borrower illicitly removes stocks pledged to the CECAM. However cases are very rare and the network can easily absorb the resulting losses – indeed the losses from fire and theft are so low that the CECAM network finds it unnecessary to take out insurance.

Fraslin (2008) estimates that all MFIs have collectively disbursed on storage credits about Euro 10 million, a figure that represents about 55,000 tonnes of paddy and equivalent value of other commodities. He also estimates additional revenue of about 20%, a figure that the author is unable to confirm. However, the main indicators of success are the upward trend in farmer’ use of the service, notwithstanding the fall in profitability since the 1990s and the losses they experienced in 2005/06.

The crisis of 2005 revealed that the need for a much overdue market information service, one which would allow farmers and financial institutions to mitigate their price risk. FAO proceeded to establish a Rice Observatory which was subsequently taken over by the Office of the President of Madagascar. The observatory produces and disseminates throughout the country weekly bulletins on prices for milled rice, paddy, cassava and maize at national, regional and district levels, as well as a bi-monthly publication called Horizon. This provides similar price data as well as information on imports, import parity prices and the progress of crop by region, and pieces on specific themes of interest to stakeholders. It was therefore somewhat surprising to find that the regional MFI unions in the Lake Alaotra zone were not using all this information in fixing their lending quantum; they were simply fixing this on the basis of current local prices. A more thorough form of risk management might have provided for periodic analysis of trends in the international market and the import parity price, which as noted above are prime determinant of prices in Madagascar. The need for such analysis will be much greater if the country succeeds in eliminating its production deficit; if this happens domestic prices may well drop below import parity creating an additional risk for those storing seasonally.

The same events led to the establishment of a consultative forum called the ‘Platforme de Concertation pour le Piloteage de la Filière Riz’ (PCPRIZ) at the end of July 2005. Government representatives and private operators are present in this group and have regular dialogue on rice trade issues, and more broadly about the rice sector. Notwithstanding, Jenn-Treyer (2008) observes that in periods of market tension or risk of disequilibrium, discussions and decisions often take place outside this formal structure.

Other impacts of storage credit: the loan proceeds provide important knock-on effects, notably in providing farmers with resources that allow them to engage in off-season activities, like raising chickens, horticulture, rice production in certain areas and trade. They also provide resources to repay production and hire-purchase credits, which are key to agricultural intensification and eliminating Madagascar’s rice deficit.

Impact with products other than paddy: Storage credit has been tried with maize, beans, dried cassava and groundnuts, but the level of uptake is small, an “insignificant proportion” according to Beaur d’Augères (2007), and “never more than 5%” according to UNICECAM. The main problem is that these crops do not lend themselves so easily to very small scale decentralised storage by farmers; as long as it is dry and rat poison is put down, paddy is scarcely affected by pests. Various other explanations were advanced, notably the relatively small size of markets for these commodities, and greater difficulty in predicting market trends.

Other commercial lending against inventories

There is considerable lending against stocks of rice, maize, cassava, beans, vanilla and coffee. International collateral managers seem to have smaller role than in most countries of continental Africa, as the banks that carry out the surveillance themselves. In a typical routine bank staff will visit the storage facility at the time the credit is requested and about six weekly henceforth and when stock levels are varied. Insurance is required against fire, theft and life of borrowers.

The political crisis of 2001/02 resulted in economic dislocation, including lack of fuel, banks unwilling to lend, and a collapse in prices for agricultural commodities. USAID helped Government organise a special facility, called the Agricultural Products Marketing Fund (FCPA), to provide credit, kick-start the rural economy and provide a measure of price support. FCPA is managed by an Inter-Ministerial
committee and carries out a classic collateral management operation, taking over the borrower’s facility which it uses as security for loans, both loans from its own resources and from collaborating banks. FCPA played an important role after the above-mentioned political crisis, but for the most part banks have gone back to lending directly without collateral management.

Conclusions

The introduction of MF-linked storage credit has had a major developmental impact, because:

a) It has allowed farmers to store substantial quantities of grain and thereby contribute to stabilising prices in their own communities, and throughout the nation. An additional 55,000 tonnes of paddy stored may look like a very small amount, representing about 1.25% of total supply including imports, but the impact on price stability is probably quite substantial, given the inelastic nature of demand for staple food commodities in poor countries, and rice in the case of Madagascar.

b) It has allowed MFIs to get established in rural areas in Madagascar, permitting an increase in more risky production lending, including the acquisition of fixed assets through hire purchase, other types of lending (social and commercial) that contribute to rural welfare, and savings.

The main advantages of the GCV (Common Village Granary) system over other systems of inventory credit or warehouse receipts are as follows:

- It is a highly decentralised operation causing foodstuffs to be stored in large numbers of small village stores. The paddy is available for consumption during the lean season, and this reduces wasteful movement of rice that would occur in the absence of the system.
- It is a low cost system working without the expense of an independent collateral manager or insurance cover
- It is a self-regulating system, where the credit institution functions simultaneously as the regulator. This avoids the problems of cost, political economy and management that can arise when countries seek to establish national warehouse receipts regulators.

The system also has certain limitations.

- Due to problems of pest control, it is more difficult to implement such a system with commodities other than paddy rice. For example, fumigation provides the most reliable system of pest control with maize, but this would be both unsafe and uneconomical in the small home stores that farmers are using in Madagascar. It might be worth exploring the alternative of some form of hermetic storage (e.g. plastic tubs, drums or metal silos) that allows the grain to be stored safely without fumigants, or which in some countries have been used safely in combination with fumigants at household level61.
- The relatively illiquid market, and reported unpredictability of price movements, poses an additional constraint on the use of GCV for these other commodities. Less predictable price movements favour the involvement of professional position takers with better access to market information, i.e. traders and speculators, but not farmers. Commercial rather than mutual warehouse receipt systems, providing access to lower cost credit, may be more suitable for these parties.
- The success of the model is dependent on a highly structured institutional design which provides for strong internal monitoring and control. Such structures hardly exist in mainland countries of Eastern and Southern Africa, or are in their infancy.

While the CECAM model has proved highly successful, there is an issue regarding the Governance of the network. Much of its rapid growth can be attributed to the support of European donors and rural finance specialists, and while it enjoys considerable commitment at the level of the membership, it is

61 This is discussed in the Sub-Annex at the end of Annex 2, dealing with ‘Hermetic storage technologies’
still in the process of being absorbed into the country’s political and social culture. Coupled with low education levels, this situation increases the network’s vulnerability to governance problems. The promoters have attempted to resolve this problem by placing the banking and control functions within a technocratic body that enjoys a degree of independence from the nationally elected members. This approach is in accordance with thinking about ‘movement-to-movement’ assistance within the cooperative sector, and there are precedents for cooperatives and non-cooperative enterprises jointly taking shares in limited companies, but it has proved unacceptable to some key Malagasy stakeholders and the regulator. There is currently an impasse with the donors and it remains to be seen how it will be resolved.

The more farmers engage in speculative storage the more they will be exposed to losses such as they experienced in 2005/06. There is considerable enthusiasm for storage loans and pressure on the unions to raise the advance rates (quotum) to more attractive levels. Lenders are rightly concerned about the potential for Government-induced distortions, but they should also keep a close eye on international markets, and take account of them in their lending decisions. International prices are still well above the levels experienced until the middle of this decade, and a sudden fall may pose a risk to banks and MFIs lending against rice stocks. It would be prudent for them to institute regular simulations of the effects of alternative pricing scenarios on their loan portfolios.
ANNEX 5: TANZANIA CASE STUDY

Note: approx rate of exchange KSh 1,300 = US$ 1

Coffee warehouses

The WRS has taken off with coffee since the latter 90s, with 25% - 30% of the country’s exports passing through the system. The activity is concentrated in the North and the Southern Highlands, and there are five registered coffee warehouses, including cooperatively-owned ‘Coffee Curing Companies’ and two private players. Some other non registered processors are reported to offer similar services.

The warehouses receive parchment coffee from different types of depositors including cooperative unions, primary cooperative societies, farmer business groups and private exporters. Some of the farmer business groups (137 groups representing 11,000 farmers) belong to the Association of Kilimanjaro Speciality Growers which markets speciality coffee under the brand of Kilicafé, and some are supported by private coffee exporters (notably Neumann Café). The warehouses issue WRs which depositors can use to raise financing while the coffee is processed, graded and held for sale. Most of the coffee is sold through the Moshi Coffee Auction (MCA) but groups selling speciality coffee can get dispensation to sell direct to exporters without passing through the auction. Box 5.1 shows how the system works with primary cooperative societies (PS).

**Box 5.1: Operation of the Coffee WRS in Tanzania**

- The PS bulks on behalf of members and delivers deposits of 3-7 tonnes to designated warehouses and is issued with a WR. It makes “first” payments to the members, which are financed with bank loans.
- The designated warehouse operators issue the WRs and process the delivered parchment coffee on “first-come-first-processed” basis, unless the depositor specifically instructs them to delay processing for strategic marketing reasons.
- The PS obtains inventory finance on the basis of the WRs, which allows it to make further purchases of coffee from its members (and sometimes from non-members in their catchment area).
- After processing, and on the basis of instructions by the PS, the warehouse operator sends samples of the coffee intended for sale to the Moshi Coffee Auction (MCA). The MCA in turn delivers the samples to registered traders (mainly coffee exporters) about three weeks before the date for trading the specific lot. Representatives of the coffee exporters assemble at the MCA and competitively bid for specified lots of coffee, using an electronic bidding system rather than open outcry.
- The winning buyer makes payment directly to the MCA, which in turn pays the PS through its financing bank, ensuring that any processing fees are deducted and directly paid to the warehouse operator.
- The financing bank, after deducting the loans advanced to the PS and associated costs, credits the accounts of the PS with the balance. The bank then releases the warehouse receipt to the buyer.
- The buyer presents the warehouse receipt and release instructions from the bank to the warehouse operator, who then releases or delivers the processed (green) coffee to the buyer and cancels the WR.
- The PS makes “second payment” to the farmer after deducting the loan and servicing cost from proceeds from the sale. At the end of the season, when all administrative and other costs have been deducted from total sales revenues, the PS makes a “third payment”.

Source: Gideon Onumah, NRI, pers. comm.

Table 5.1 shows the total tonnage funded through WRs to 2005/06, in which season three banks provided of total of US$11.8 million in inventory finance (Onumah and Temu, 2008). Producer organisations (POs) had a very large share, but falling in relation to private depositors. The share of
POs was however four times that of cooperative unions. This is very significant because a large part of the POs were primary societies that had opted for selling directly through the auction rather than through the unions that were their traditional channel. The WR financing had provided them with the option of selling direct to the export buyer.

Table 5.2 shows figures up to 2009 for coffee processed through the coffee curing companies of Mbinga and Mbeya in the Southern Highlands. Here can be observed a continued rise in the share of ‘farmer business groups’ (FBGs), and a corresponding fall in the share of cooperative unions, primary societies and private traders. The members of the Association of Kilimanjaro Speciality Growers have benefited greatly from this arrangement which has allowed them to increase their bank overdrafts.

**TABLE 5.1: PARCHMENT COFFEE FUNDED THROUGH WAREHOUSE RECEIPTS (all warehouses)**

<table>
<thead>
<tr>
<th></th>
<th>2002/03</th>
<th>2003/04</th>
<th>2004/05</th>
<th>2005/06</th>
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<tr>
<td>Tonnes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coop Union</td>
<td>1,098</td>
<td>3,484</td>
<td>4,209</td>
<td>1,323</td>
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<tr>
<td>POs</td>
<td>7,072</td>
<td>5,187</td>
<td>6,512</td>
<td>5,488</td>
</tr>
<tr>
<td>Private</td>
<td>-</td>
<td>1,172</td>
<td>4,951</td>
<td>5,749</td>
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<tr>
<td>Total</td>
<td>8,171</td>
<td>9,842</td>
<td>15,672</td>
<td>12,561</td>
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<tr>
<td>Percentage:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coop Union</td>
<td>13%</td>
<td>35%</td>
<td>27%</td>
<td>11%</td>
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<tr>
<td>POs</td>
<td>87%</td>
<td>53%</td>
<td>42%</td>
<td>44%</td>
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<tr>
<td>Private</td>
<td>0%</td>
<td>12%</td>
<td>32%</td>
<td>46%</td>
</tr>
<tr>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**TABLE 5.2: PARCHMENT COFFEE FUNDED THROUGH WAREHOUSE RECEIPTS (deposited at Mbinga and Mbeya Coffee Curing Companies)**

<table>
<thead>
<tr>
<th></th>
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</thead>
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<tr>
<td>Tonnes:</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Coop Union</td>
<td>6</td>
<td>1,474</td>
<td>863</td>
<td>100</td>
<td>n/a</td>
<td>41</td>
<td>75</td>
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<tr>
<td>Coop PS</td>
<td>5,751</td>
<td>3,616</td>
<td>2,282</td>
<td>1,792</td>
<td>n/a</td>
<td>696</td>
<td>249</td>
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<tr>
<td>FBGs</td>
<td>-</td>
<td>582</td>
<td>1,443</td>
<td>1,954</td>
<td>n/a</td>
<td>2,689</td>
<td>4,978</td>
</tr>
<tr>
<td>Private</td>
<td>-</td>
<td>1,172</td>
<td>4,951</td>
<td>5,749</td>
<td>n/a</td>
<td>2,052</td>
<td>978</td>
</tr>
<tr>
<td>Total</td>
<td>5,757</td>
<td>6,843</td>
<td>9,540</td>
<td>9,595</td>
<td>n/a</td>
<td>5,478</td>
<td>6,279</td>
</tr>
<tr>
<td>Percentage:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coop Union</td>
<td>0%</td>
<td>22%</td>
<td>9%</td>
<td>1%</td>
<td>n/a</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Coop PS</td>
<td>100%</td>
<td>53%</td>
<td>24%</td>
<td>19%</td>
<td>n/a</td>
<td>13%</td>
<td>4%</td>
</tr>
<tr>
<td>FBGs</td>
<td>0%</td>
<td>9%</td>
<td>15%</td>
<td>20%</td>
<td>n/a</td>
<td>49%</td>
<td>79%</td>
</tr>
<tr>
<td>Private</td>
<td>0%</td>
<td>17%</td>
<td>52%</td>
<td>60%</td>
<td>n/a</td>
<td>37%</td>
<td>16%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>n/a</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Source for Tables 5.1 and 5.2: Fidelis Temu, Warehouse Licensing Board*
While the Warehouse Licensing Board has registered the five above-mentioned warehouses, it is the Tanzania Coffee Board which regulates the coffee industry and licenses processors. However neither agency has so far put in place a warehouse receipt licensing regime, performance guarantees or inspection routines for the warehouse receipt system and the system rests on depositors’ and bankers’ confidence in the operators. In reality however, some warehouse/curing plants have better reputations than others. Hopefully the regulatory regime can be established in the near future, with the objective of assuring that all players meet a minimum standards and minimising risks to the public.

**Cashew warehouses**

Cashew warehousing started in 2007 as a result of an initiative in Mtwara region, which produces around 90,000 tonnes of raw cashews per annum, with the objective of enhancing the efficiency of the primary marketing system for raw cashew nuts. Most of these are exported to India for processing though about 20% is processed locally in Tanzania. Government was concerned that market liberalisation had not delivered on its promise, that the market was not transparent, and that buyers’ agents were paying derisory prices for the raw nuts.

The new system is a combination of the WRS, government minimum pricing and an officially-sanctioned cooperative procurement monopsony, involving the same primary societies (PS) and regional cooperative unions that operated prior to liberalisation, such that the exporters and local processors are not allowed to send their buyers into the field. The cooperatives deliver raw cashews to designated warehouses where they are sampled and auctioned to the interested exporters and local processors. Banks provide the PS with funding against WRs issued by designated warehouses, over US$ 45 million\(^62\) in 2007/08.

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**BOX 5.2: OPERATION OF WRS FOR RAW CASHEW NUTS**

As far as could be ascertained in a short visit, the system works as follows.

The season lasts from October to March, but most collection takes place between November and January. Farmers must deposit all raw nuts at the premises of the PS, which grades them visually as ‘standard’, ‘undergrade’ or ‘reject’ and pays 60% of the guaranteed official producer price, using bank funds secured by the inventory. The lots of individual depositors are bulked up and then shipped to designated warehouses, where they are submitted to cutting and moisture tests, providing information on nut counts per kg, shelling out-turn (SHOT) in lb/80 kg, and moisture. Deposits are only accepted when SHOT is less than 48, and moisture less than 12%. After acceptance, the warehouse issues a WR to the primary society which this uses to raise finance. The into-store cost of raw cashews was supposed to be TSh 925 in 2008/09, consisting of the producer price (TSh 675) + the marketing cost (TSh 250). The main components of the latter were district council CESS (5%), primary society levy (TSh 50), cooperative union levy (TSh 20), transportation (TSh 20 to 50), gunny bags (TSh 27-30), bank charges (TSh 23-30), and storage charges (TSh 17\(^63\)).

The nuts are offered as lots normally greater than 500 tonnes, consisting of a large number of itemised sub-lots. The cooperative union organises weekly auctions at each of the designated warehouses and provides buying companies with a sales catalogue, showing the following information per sub-lot: name of PS, WR number, bags, weight, moisture content and SHOT. A special tender committee opens the bids and selects the highest. If the prices are the same, they try to negotiate an increase.

The warehouse operator releases the stock to the buyer under similar arrangements as those for coffee (see Box 5.1). After the year’s business is finished the cooperative union calculates the profit of each PS, and pays the balance due. Farmers get three payments: 60% of the minimum price, 40% + bonus.

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\(^62\) Total funds employed were circa $20 million but were recycled.  
\(^63\) This is about $13 per tonne, and up from the previous year’s figure of TSh 8 per kg (about $6.50 per tonne)
In 2007/08, world prices were higher than anticipated, and the primary societies were able to pay their members a bonus of between TSh 120 and TSh 180 per kg, over and above the government guaranteed price of TSh 610, and retain an additional surplus. In 2008, the guaranteed price was raised to TSh 675, which the buyers considered unrealistic and there was a two-month stand-off when they refused to buy. They only started buying after an agreement to lower the reserve price on the auction (previously TSh 1,000/kg). The average sales price realised (at the time of visit) was TSh 940, bank charges (resulting from lengthy storage) had risen to TSh 50 per kg, and it was doubtful if any bonus would be paid. If there was a loss the District Authority and the PS would be asked to sacrifice their levy.

It appears that the system has succeeded in raising prices to the farmers. Before 2005, farmers were getting paid TSh 200-300 per kg, and the increase to over TSh 600 does not appear to be entirely a result of increased international prices. This needs to be fully substantiated. The system has also reduced theft of nuts in rural areas, and to have enabled the PS to invest in tractors, trucks and buildings. However, farmers were reported to have mixed views, and were unhappy about receiving partial payments – which may reflect distrust in the system.

One downside to the cashew WRS is that it has halted the establishment of contract-farming schemes linking buyers and farmers, and which help the latter raise productivity and improve nut quality; this is particularly significant in the light of reported management problems with a Government inputs fund. Some buyers complain about the accuracy of the grading and the transparency of the tender system, arguing for example that they should be allowed to check quality independently and that all bids should be published. There were also complaints the number and accuracy of scales, insufficiency of trucks, gunny bags and buyers failing to pay the PS’ overdrafts on time.

The politically-sensitive system of minimum pricing does not sit very well with a WRS which seeks to be market-driven. Questions also remain as to whether the same level of impact could have been achieved in other ways which would not have required banning middlemen in rural areas, e.g. marketing extension to farmers to help them become more proactive in marketing their raw nuts, including provision of assayed scales and market information. There are also concerns that the new system will empower those who have enjoyed close relationships with Government, i.e. cooperative unions which had become largely discredited (Government had recently taken over TSh 800 million in debts), and warehouse owners who have benefited from privatisation, to the detriment of farmers. A procurement monopoly does not have much incentive to work efficiently. There is some concern about these issues in Government circles.

The Agricultural Marketing Systems Development Programme (AMSDP)

This Tanzanian Government programme lasts seven years (2002-2009) is part funded by IFAD and Agricultural Development Bank, and has an overall cost of US$ 42.3 million. It is targeted at smallholder farmers in key grain producing regions of northern and southern Tanzania, and has four main components:

- Developing agricultural marketing policy
- Empowering small producers, by building their entrepreneurial and organisational capacity, and improving their links to markets
- Providing marketing-related financial services, i.e. seasonal storage credit to farmers in the form of WRS
- Developing rural marketing infrastructure, including storage facilities, marketplaces and roads

The programme has worked with some 1,000 producer groups in the northern and southern regions, i.e. the main areas responsible for producing food surpluses. The second of these components (producer empowerment and market linkages) was designed to make farmers more proactive in learning about market opportunities and developing markets for their products. Such an approach seems highly appropriate in a country like Tanzania, where farming populations are dispersed and markets flows are multi-directional, but where socialist ideology had sometimes inculcated dependency on the State. Much of the component was implemented through the ‘First Mile’ project a knowledge management initiative which formed ‘district core teams’ of local experts and stakeholder representatives through
which farmers in different districts were supposed to obtain information link up with other market participants, aided by village billboards, mobile phones, radio, email and the internet.

AMSDP hired the leading collateral management company (ACE) to implement the third component (WRS). The component was targeted at smallholder farmers, and was designed to make use of rural warehouses built under the FAO Rural Structures Project and similar donor-funded initiatives of the 1980s and 1990s, but which had since then mainly stood idle and not been maintained. Up to early 2009, AMSDP had paid for the rehabilitation of 11 warehouses with aggregate capacity of 10,100 tonnes, and constructed three new warehouses with capacity of 1,900 tonnes.

There are four main participants in the system at any given storage location: the farmers, the SACCOS, participating commercial banks (PCBs) and collateral managers (e.g. Baltonic and Wakefield Inspection Services). The warehouse (often rented) must have a minimum storage capacity of 300 tonnes. It is placed under the legal control of the collateral manager who manages the facility, and ensures security, store hygiene, pest control and insurance against fire and theft. The SACCOS enters into a re-financing agreement with the bank, with an interest charge of 13-15% per annum, to which they add their own commission bringing the cost to 2.0-2.5% per month. The collateral manager must itself have professional indemnity cover providing for errors and omissions, unaccounted losses, misrepresentation by the collateral manager, embezzlement and quality deterioration. The cost of the service is approximately TSh. 1.5 million per month throughout the storage period, including TSh. 1.2 million for the collateral manager, and TSh. 300,000 for the combined cost of security, casual labour, pest control and insurance cover.

The project has established clear handling and pest control procedures. Warehouses must have proper security and mesh over the ventilation slits, and they must be cleaned and sprayed for pests before deposits begin; rat poison is also put down. At the time of deposit, farmers must pour their grain on to a mat in front of collateral manager, to ensure cleanliness and the absence of excessive foreign matter, dust with contact insecticide (in the case of maize), and rebag in standardised new bags provided by the collateral manager. Formal grading standards are not applied.

Farmers normally deposit individually, have their stock stored on an identity-preserved basis, and they are individually responsible for selling it at the time of withdrawal. Local SACCOS provide credit against the stock, with the support of refinancing banks (usually CRDB). In the first year of supporting storage at a particular location, AMSDP covered 100% of the costs of collateral management, security fire and theft insurance and cash guarantee (for cash in transit to the SACCOS). In the second year it covered 50%, after which the local operation was expected to support the full cost and could only expect support in the form of technical backstopping. AMSDP had to provide a 50% credit guarantee under its ‘Trade Loan Guarantee Fund’ in order to assuage the banks’ concerns, though this has been reduced or waved as the banks gained in confidence. The warehouses were not subject to any regulatory supervision by the Warehouse Licensing Department.

In principle, farmers must deposit funds at the PCB before they can withdraw stock from the warehouse. To get round this cumbersome arrangement, the PCB may delegate the authority to release the goods to the SACCOS.

Table 5.3 provides a statistical review of the different locations participating in the scheme and the volumes stored. The overall volumes stored peaked at 5,729 tonnes (at 8 locations) in 2006/07 and fell to 834 tonnes (at two locations) by 2008/09. The most dramatic fall occurred with maize which was 35% in the first year but had disappeared from the scheme by 2008/09, when paddy accounted for the totality of grains stored. Here it is appropriate to comment upon each case separately:

- **Maize.** The scheme has failed here, and this mainly reflects farmers’ inability to manage their price risk in a market subject to Government interventions that are often difficult to predict including an export prohibition in 2006/07 which caused prices to seriously slump, and subsidised Government sales in 2007/08. Farmers generally lost interest and withdrew from the scheme.

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64 About 1,000 of these warehouses, each with a capacity of 300 tonnes or more were built in the 1980s and early 90s
The export ban of 2006/07 also affected a maize pilot promoted by the USAWA – see figures in Table 5.5 below.

In addition it appears that farmers did not respond as positively as AMSDP had expected to its Market Empowerment and Market Linkage component which was supposed to increase their ability to work within a changing and somewhat unpredictable market. AMSDP staff expressed various opinions about the effectiveness this component, some observing that it had modified behaviour at farmer level, encouraging them to analyse costs, seek out information by cellphone, and learn about seed and quality requirements, with others noting that farmers were not being proactive in investigating and finding markets, but remained price takers, selling free-on-truck at the warehouse premises. A frequently cited case is that of two northern Tanzania locations, where in July 2007, farmers were still holding part of 2006/07 stocks that could not be sold due to price decrease attributed to cross-border restrictions. An advantageous arrangement was reached whereby farmers could sell to the Strategic Grain Reserve (SGR) at above market prices. However some farmers did not take this opportunity and decided to hang on for “better prices”, which had reportedly been promised by politicians. The collateral manager withdrew from these locations at the end of its contract, with the consequence that pest control was not properly maintained and some stock was damaged.

On some occasions the Programme advised farmers to sell their grains, rather than take store in the warehouses, to take advantage of high prices immediately after the harvest.

- **Paddy rice.** The scheme seems to have been largely successful with this crop. The figures in Table 5.3 overstate the decline in the WRS with rice because they do not include rice stored at locations (e.g. Magugu, Chimala) that had graduated from, or ceased to work with the WRS scheme, or new locations like Uburaku which started to implement the system independently of AMSDP. Banks and SACCOS have continued lending against rice stocks; indeed the leading player among the banks (CRDB-Microfinance) indicated that its WRS lending portfolio was TSh 2.9 billion, equivalent to about 10,000 tonnes of paddy. The pattern of price variability was much more predictable than it was for maize, and as can be seen from Table 5.4 (Magugu) farmers were able to make good profits in three of four years. However, prices rose slowly, if at all, in 2007/08 and this caused problems for farmers in the leading location (Chimala). This alarmed the local SACCOS which tried to sell the crop on behalf of its members, moving beyond the role assigned to it under the Law. Shifting the crop was reportedly made difficult by the fact that the bags all belonged to individuals and were not standardised in terms of variety and quality. Failing to sell some of their crop, farmers carried 800 tonnes of paddy through to the next year.

Various other problems were mentioned as having weakened the scheme. In some cases problems arose because the PCB delayed disbursement, particularly in 2007/08. Two locations were adversely affected by the poor management of SACCOS. Political pressures resulted in the selection of some locations which were not really suitable to implementation. At one warehouse, many smallholders did not deposit because of scepticism and lack of understanding of scheme modalities. The termination of ACE’s consultancy services in June 2007 was reported to have left the WRS component short staffed.
TABLE 5.3: MAIZE & PADDY STORED, BY LOCATION, UNDER THE WAREHOUSE RECEIPT COMPONENT OF AMSDP (tonnes)

<table>
<thead>
<tr>
<th>Zone</th>
<th>Location</th>
<th>Produce</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern</td>
<td>Magugu</td>
<td>Paddy</td>
<td>87</td>
<td>363</td>
<td>540</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Qash</td>
<td>Maize</td>
<td>126</td>
<td>142</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Endesak</td>
<td>Maize</td>
<td>498</td>
<td>129</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Masakata</td>
<td>Maize</td>
<td>574</td>
<td>91</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td></td>
<td>213</td>
<td>1,577</td>
<td>760</td>
<td>-</td>
</tr>
<tr>
<td>Southern</td>
<td>Chimala</td>
<td>Paddy</td>
<td>582</td>
<td>3,335</td>
<td>774</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Iwindi</td>
<td>Maize</td>
<td>22</td>
<td>124</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mtabula</td>
<td>Maize</td>
<td></td>
<td>193</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Matai</td>
<td>Maize</td>
<td></td>
<td>500</td>
<td>244</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Madibira</td>
<td>Paddy</td>
<td></td>
<td>237</td>
<td>813</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kyela</td>
<td>Paddy</td>
<td></td>
<td>88</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kamsamba</td>
<td>Paddy</td>
<td></td>
<td>123</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mpitimbi</td>
<td>Maize</td>
<td></td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td></td>
<td>604</td>
<td>4,152</td>
<td>1,482</td>
<td>834</td>
</tr>
<tr>
<td>Country</td>
<td>overall total</td>
<td>of which:</td>
<td>817</td>
<td>5,729</td>
<td>2,242</td>
<td>834</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maize</td>
<td>148</td>
<td>2,031</td>
<td>480</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paddy</td>
<td>669</td>
<td>3,698</td>
<td>1,762</td>
<td>834</td>
</tr>
</tbody>
</table>

Source: AMSDP

I visited Magugu and analysed the scheme financially (see Table 5.4). It had been highly successful, providing farmers with substantial profits in three out of four years, and facilitating a local process of rice mechanisation and other livelihood improvements. Significantly, it had not followed the requirements of AMDSP and of its banker (CRDB) that it employ a collateral manager, and has instead employed the secretary of the SACCO to carry out the same function. In practice this resulted in a major saving to the SACCO, at least TSh. 9 million per annum, which is greater than the activity’s total contribution to the SACCO’s fixed costs. On the other hand, it may be argued that this has been achieved at the cost of independent warehouse management.

AMSDP finishes at the end of 2009, and its functions will be absorbed into the Agriculture Sector Development Programme (ASDP) which will be financed out of the general Government budget, to which donors contribute through budget support.
TABLE 5.4: FINANCIAL ANALYSIS OF STORAGE LOANS AT MAGUGU (approximate, in KSh.)

**Assumptions**

<table>
<thead>
<tr>
<th>Item</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage period (months)</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard storage charge to farmers/bag</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct handling costs to farmers/bag</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage charge</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stacking charge</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental transportation cost</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest charge (est. for 9 months)</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SACCO's share in interest charge</td>
<td>4.13%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advance rate</td>
<td>75%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CM (only 05/06 &amp; 06/07) - monthly cost</td>
<td>1,000,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watchmen - monthly cost</td>
<td>60,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nos of months CM &amp; watchmen employed</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of CM &amp; watchmen borne by SACCO - 5/06</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of CM &amp; watchmen borne by SACCO - 6/07</td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rental</td>
<td>no cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance of warehouse</td>
<td>no cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance cost borne by SACCO</td>
<td>from 2007/08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pest control chemicals</td>
<td>negligible</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Profitability to farmers**

<table>
<thead>
<tr>
<th>Item</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bags (av 90 kg) stored in main warehouse</td>
<td>966</td>
<td>4,032</td>
<td>6,000</td>
<td>4,800</td>
</tr>
<tr>
<td>Price/bag at time of storage</td>
<td>30,000</td>
<td>30,000</td>
<td>37,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Revenue/bag</td>
<td>52,000</td>
<td>42,000</td>
<td>45,000</td>
<td>70,000</td>
</tr>
<tr>
<td>Gross profit/bag</td>
<td>22,000</td>
<td>12,000</td>
<td>8,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Expenses:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage charge</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Direct handling</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Interest charge per bag</td>
<td>4,303</td>
<td>4,303</td>
<td>5,307</td>
<td>5,738</td>
</tr>
<tr>
<td>Sub-total</td>
<td>5,803</td>
<td>5,803</td>
<td>6,807</td>
<td>7,238</td>
</tr>
<tr>
<td>Net profit per bag</td>
<td>16,197</td>
<td>6,197</td>
<td>1,193</td>
<td>22,763</td>
</tr>
<tr>
<td>Incremental revenue</td>
<td>54%</td>
<td>21%</td>
<td>3%</td>
<td>57%</td>
</tr>
</tbody>
</table>

SACCO - contribution to fixed costs

<table>
<thead>
<tr>
<th>Item</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bags stored</td>
<td>966</td>
<td>4,032</td>
<td>6,000</td>
<td>4,800</td>
</tr>
<tr>
<td>Storage revenue</td>
<td>483,000</td>
<td>2,016,000</td>
<td>3,000,000</td>
<td>2,400,000</td>
</tr>
<tr>
<td>Financial revenue</td>
<td>3,742,200</td>
<td>6,868,125</td>
<td>5,940,000</td>
<td></td>
</tr>
<tr>
<td>Gross revenue</td>
<td>483,000</td>
<td>5,758,200</td>
<td>9,868,125</td>
<td>8,340,000</td>
</tr>
</tbody>
</table>
Expenses directly related to storage business:

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance cover</td>
<td>787,500</td>
<td>695,000</td>
</tr>
<tr>
<td>CM charge</td>
<td>4,500,000</td>
<td></td>
</tr>
<tr>
<td>Watchmen</td>
<td>270,000</td>
<td>540,000</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>4,770,000</td>
<td>1,327,500</td>
</tr>
<tr>
<td>Contribution to fixed costs of SACCO</td>
<td>483,000</td>
<td>988,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8,540,625</td>
</tr>
</tbody>
</table>

**Mutual MF-networks and their role in financing grain WRS**

As stated in a report by Triodos Facet (2007), current MF thinking questions the sustainability of stand-alone rural SACCOs. In order for them to grow and prosper they will need continuous external monitoring and support, including specialist services like liquidity management, insurance and auditing, which are better placed in an intermediary organisation. Significantly two new networks have been established in Tanzania, along the lines of the CECAM network in Madagascar, and supported by the NGOs active in that country. These are respectively:

- the Dunduliza network, which brings together SACCOs in southern Tanzania, the Lake Zone and Dar-es-Salaam, and is supported by the Canadian Désjardins International de Développement (DID), and

- the USAWA network of 23 SACCOs and one branch in Kilimanjaro Region, which is supported by the French NGO, FERT. This is described in Box 5.3.

**BOX 5.3: THE USAWA NETWORK**

The French NGO, FERT, has been supporting the development of SACCOs since 2001 in Kilimanjaro region, with a special objective of promoting financial products adapted to farmers’ needs. In 2006, ten of these decided to establish the USAWA network, which would take over FERT’s support functions. By the end of 2008, this included 23 affiliated SACCOs and one branch, with a total of 8,103 members. Each SACCO contributes 15% of its gross income to USAWA’s costs, through the payment of contributions, in return for which the SACCOs get training, support on credit management, improved and standardized internal documentation, inspection and credit. The relationship between SACCOs and USAWA is being governed by a contract reviewed by the Cooperative Department officials; eleven SACCOs had so far approved it, and the others were expected to follow.

Each SACCO has two staff members, including a clerk (SLO) paid for by USAWA and the cashier paid for by the SACCOs. FERT has provided the SACCOs with office furniture and equipment, as well as cycles and motorcycles to help them in their outreach. There is a strong emphasis on promoting the network’s services, supported by new products such as hire purchase and storage loans. Loans are funded out of internally-generated resources (78% in 2008), complemented by external funds sourced by USAWA, including a mixture of interest-free loans and donations from Financial Sector Deepening Trust (FSDT), Agriterra and the producer organisation MIWATA.

At the end of 2008, the SACCOs consolidated share capital stood at TSh. 319,000 (approx US$ 245,000), on average 38% up in the year, and savings and deposits at TSh 515,000 ($396,000), up on average by 55%, and they had provided loans for TSh. 2 billion ($ 1.54 million), up 112%, comprising business loans (37%), agricultural loans (35%), hire-purchase (14%), emergency loans (7%) and storage loans (1%), and others (7%). All SACCOs were found to have generated a profit, notwithstanding a significant level of default; consolidated default was 14% portfolio at risk (PAR) 30 days, and 6% PAR 90 days. The sustainability of USAWA stood at 44%, meaning that income covered 44% of the regional federation’s costs, and it was aiming to break even by 2011 or 2012.

Source: FERT’s Activity Report for 2008, and Marc Bergeron, FERT (pers. comm.)
While these networks may have much to offer Tanzania, they have a fairly difficult task. Unlike the case in Madagascar they do not start with a ‘clean slate’. Stand-alone SACCOS have been in existence for many years (only in Kilimanjaro Region there are around 180) and they have their own largely unregulated ways of working. Some SACCOS that join the networks are unwilling to accept the uniform approaches and accompanying financial discipline, and there are significant problems of default, staff turnover, fraud and theft.

While favourable in principle, public policy seems in practice somewhat adverse, demonstrated for example by the refusal to license the Dunduliza network as a Financial Cooperative (FICO) which would give it the right to intermediate funds for lending. There are a lot of donor and Government funds for promoting SACCOS, including the Rural Financial Services Programme (RFSP), the FSTD, CRDB Bank and above all the National Empowerment and Job Creation Programme, but one gets the overall impression that the impact is patchy and sometimes adverse.

SACCOS belonging to the USAWA Federation have been implementing storage credit for maize, largely along the lines of that the Madagascan CECAMS had been doing since 1993. The SACCOS hired local warehouses to store the maize, and managed them directly without employing an independent CM as had AMSDP. It also hired in fumigation services. Stocks of individual depositors were held on an identity-preserved basis. In 2006/07, USAWA SACCOS financed the storage of 1,010 tonnes of maize, most of it held in the villages of Sanya Juu and Magadini, but the price moved seriously against the farmers, from TSh. 17,000 at time of storage (August 2006) to TSh. 13,000 in mid 2007. The fall was attributed to the same export ban that affected farmers supported by AMSDP, though there also seems to have been a problem of product quality. It was mentioned that the farmers attempted to sell to a buyer in Mombasa (presumably before the ban), but the product was rejected due to lack of product uniformity, resulting from farmers planting different varieties.

Lending has continued since then, but at a low level, only 1% of the USAWA-affiliated SACCOS’ overall portfolio. I visited the Sanya Juu SACCOS which had managed to continue with the storage loan product, and analysed its performance (Table 5.5). In 2007/08 and 2008/09 deposits had fallen to 10% and 13% respectively of the level of 2006/07 (450 tonnes), but those depositing had earned profits of 45% and 47%. SACCOS staff said that depositors were moreover attracted by the honest weighing. The operation was less attractive for the SACCOS which had to bear high costs of renting and managing a large warehouse to store a small amount of grain.

In 2008/09, the Dunduliza Federation followed USAWA into the WRS field, making use of $1,000,000 in funding (75% grant, 25% of the loan) it had obtained for this purpose from FSTD for financing some 3,500 farmers to store. SACCOS in four places of southern and western Tanzania on-lent these funds at rates between 20-24% per annum. It was planned to store a total of 2,250 tonnes of paddy in four warehouses in southern and western Tanzania, but due to a late start and some hesitation on the part of members, the amount deposited was in fact 1,220 tonnes.

**Conclusions**

See Chapter 4 of main report, Zambia section

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65 Source: IPPMedia, 3 June 2007
<table>
<thead>
<tr>
<th>TABLE 5.5: FINANCIAL ANALYSIS OF STORAGE LOANS BY SANYA JUU SACCRO, KILIMANJARO REGION (in KSh.)</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of depositors</td>
<td>175</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Number taking loans</td>
<td>167</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Bags stored in main warehouse</td>
<td>4,500</td>
<td>467</td>
<td>585</td>
</tr>
<tr>
<td>Number of bags financed</td>
<td>2,923</td>
<td>142</td>
<td>341</td>
</tr>
<tr>
<td>Price/bag at time of storage</td>
<td>18,000</td>
<td>18,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Credit/bag</td>
<td>13,000</td>
<td>13,500</td>
<td>22,500</td>
</tr>
<tr>
<td>Revenue/bag</td>
<td>16,000</td>
<td>30,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Storage period</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Storage fee/bag (no loan)</td>
<td>2,000</td>
<td>2,000</td>
<td>2,500</td>
</tr>
<tr>
<td>Storage charge/bag (with loan)</td>
<td>1,500</td>
<td>1,500</td>
<td>2,000</td>
</tr>
<tr>
<td>Handling costs/bag</td>
<td>200</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Interest rate/month</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Storage &amp; handling charges in main warehouse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watchman</td>
<td>180,000</td>
<td>240,000</td>
<td>240,000</td>
</tr>
<tr>
<td>Rental</td>
<td>720,000</td>
<td>300,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Fumigation</td>
<td>850,000</td>
<td>500,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Handling charges</td>
<td>900,000</td>
<td>93,400</td>
<td>234,000</td>
</tr>
<tr>
<td>Sub-total</td>
<td>2,650,000</td>
<td>1,133,400</td>
<td>1,274,000</td>
</tr>
<tr>
<td>Profitability for farmers in receipt of finance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total revenue</td>
<td>46,768,000</td>
<td>4,260,000</td>
<td>17,050,000</td>
</tr>
<tr>
<td>Cost of goods sold:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of grain</td>
<td>52,614,000</td>
<td>2,556,000</td>
<td>10,230,000</td>
</tr>
<tr>
<td>Storage fee</td>
<td>4,384,500</td>
<td>213,000</td>
<td>682,000</td>
</tr>
<tr>
<td>Financing charges</td>
<td>6,839,820</td>
<td>345,060</td>
<td>1,381,050</td>
</tr>
<tr>
<td>Total</td>
<td>63,838,320</td>
<td>3,114,060</td>
<td>12,293,050</td>
</tr>
<tr>
<td>Profit/loss</td>
<td>-17,070,320</td>
<td>1,145,940</td>
<td>4,756,950</td>
</tr>
<tr>
<td>Return on investment in grain (%)</td>
<td>-32%</td>
<td>45%</td>
<td>47%</td>
</tr>
<tr>
<td>Incremental profitability to SACCOS</td>
<td></td>
<td></td>
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<td>Storage &amp; handling charges</td>
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<td>Costs incurred</td>
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<td>Contribution to fixed costs</td>
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<td>-531,378</td>
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<tr>
<td>Financing charges earned</td>
<td>6,839,820</td>
<td>345,060</td>
<td>1,381,050</td>
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</tbody>
</table>
ANNEX 6: JOINING UP FOOD AID PROCUREMENT AND MARKET DEVELOPMENT

Scale and types of LRP

I have become familiar with this subject through a DFID-funded research project on Local and Regional Procurement (LRP) in Ethiopia and Uganda WFP-Uganda in 2004, while working on an EU-funded project “Support to the Uganda Commodity Exchange and Warehouse Receipts System”, between 2006 and 2008, and through private enquiry and work under this UNCTAD contract.

Since the 1990s there has been a welcome move toward sourcing food aid commodities in developing countries, so as to save on using higher cost developed country sources. WFP is by far the largest player in this field, and in 2008 it bought just over one million tonnes of commodities in Africa, at a cost of US$427 million. The EU and member States fund most LRP, though Canada will now purchase up to 50% locally, and the United States, which hitherto would only supply American commodities, is also entering the field. The US Government continues providing most food assistance in the form of domestically-grown commodities, but in FY 2009, LRP accounted for just under 4% of the estimated total Title II food aid budget of $2.4 billion, and in FY 2010, it is 15% of the total resources (Title II and IDA) requested to address food assistance needs. “LRP will be used judiciously to increase the U.S. Government’s ability to respond to humanitarian crises at the right time with the right tools”, according to a spokesperson for USAID-Food for Peace. The US Government is also likely to fund the distribution of cash and vouchers for food purchase.

South Africa supplies more gain to WFP than any other African country, and in 2008 provided about 470,000 tonnes valued at nearly US$164 million. Uganda was the second largest supplier and in 2007 provided 210,000 tonnes, of which 77% was maize and the remainder beans, maize meal, corn-soya blend (CSB) and vegetable oil. I do not have the quantity for 2008, but the value of its purchases went from US$55 million in 2007 to $53 million in 2008, and it anticipated a rise to $66 million in 2009.

WFP-Uganda has been overwhelmingly sourcing its supplies from pre-qualified traders by tender, with an average of 95% of the maize grain and beans tonnage being procured in this way between 2004 and 200666. Four leading traders regularly accounted for 80% of purchases from traders. WFP had been unable to meet its target of procuring 10% from POs because these were unable to supply according to WFPs tender rules for POs (which were more lenient than those for traders), and in years 2004-06, some 40% of contracts ended in default.

Experiences of this kind, in Uganda and elsewhere, made WFP procurement staff sceptical of directly procuring from farmers, and this is reflected in the Policy Issues paper they prepared for a meeting of the Executive Board in February (WFP, 2006). Referring to direct purchases from farmers, the paper says on page 5 that “WFP is not well-placed to use procurement to support farmers and farmers’ groups entering the market place. There may be limited opportunities for support as part of a broader partner-led strategy”. On page 24, it says that the experience had been generally negative, “resulting in higher prices paid, higher administrative costs, because of having more contracts to monitor, and greater risk of default”. It went on to say that “direct contracting and preferential terms that do not fit market realities can lead to inefficient use of resources”

WFP-Zambia purchases about a quarter of Uganda’s volumes, mainly for export to Zimbabwe, and currently projects a quantity of around 53,500 tonnes per annum.

66 WFP indicates that since 1995, this has accounted for about 93% of the tonnage purchased, while the remaining 7% was procured directly from farmer associations, through the tendering process in most cases.
WFP’s involvement with ‘new market institutions’

WFP’s involvement with new market institutions has varied according to the country concerned. WFP-Zambia has made the fullest commitment, by deciding to do all its LRP through ZAMACE, and to procure part of its supplies in areas close to ZAMACE-linked warehouses where smallholders will be able to deposit. WFP was keen to avoid setting up its own parallel procurement system, and wanted to support a structure that would outlast its presence in Zambia.

WFP-Ethiopia sought to procure from the Ethiopian Commodity Exchange (ECX) but could not get significant quantities due to Government controls on the price band within which trading was allowed. It is Uganda where WFP has made the largest formal commitment (to procure 150,000 tonnes of maize in three years), and it also has plans to fund the building of warehouses. As noted in the country section, WFP is particularly important to the establishment of Uganda’s WRS, since it is by far the largest individual buyer and the ‘market maker’ for dry graded maize; most of the non-relief trade is in ungraded non-uniform product. By way of contrast, a substantial part of Zambian demand is accounted for by large-scale roller millers who pay price premiums on the basis of quality. In practice, negotiations over WFP procurement took a long time in Uganda, and it took nearly three years to make a start to procurement. However a start has been made and WFP has so far procured 358 tonnes from the WRS using a ‘direct purchase’ system.

A feature distinguishing WFP’s approach in Zambia was the speed with which it engaged with the local institutions seeking to develop the exchange and warehouse system (ZAMACE). The country office was notably willing to discuss changes to procurement rules required to facilitate the WRS, and to take up the case with WFP-Rome. Such changes are necessary, for example, to accommodate the role of the warehouse operator as an agent acting on behalf of the farmer/seller (the principal); the warehouse operator (not the farmer/seller) would now be the party responsible for delivering stock of quantity, quality and time as per contract. WFP would no longer need to pre-qualify sellers as WFP requires under its standard rules, but would need to focus on the warehouse operator, ensuring that the licensing mechanism established by the regulator was sufficiently rigorous to screen out non-performing or potentially fraudulent players, and that it provided for recourse in the case of warehouse failure.

Another feature distinguishing WFP-Zambia’s approach was the speed with which it embraced the logistical savings that could arise from the use of new market institutions. It made a virtue of the savings it could realise by taking delivery of commodities at locations close to the location where ultimately needed for feeding school children, refugees etc..

Purchase for Progress

An important factor now bearing on WFP’s local and regional purchase activity is the Purchase for Progress (P4P) programme. P4P started in 2008, and is mainly funded by the Bill & Melinda Gates and Howard G. Buffett Foundations. It was designed to pilot alternative procurement modalities, that would “have the best potential to stimulate agriculture and market development and which better use its purchasing power to support the sustainable development of food security”. The objective was to reduce the risks farmers face in uncertain markets, boost incomes and encourage them to invest in technologies and practices to increase and improve production. The programme was planned for 21 countries, including 15 in Africa, and five out of the six countries discussed in this report (i.e. all except Madagascar). It would make use of four alternative procurement systems:

1. Competitive tendering from smallholders
2. Purchasing directly from smallholders/low income farmers
3. Forward contracting from smallholders, for the purpose of risk reduction
4. Pro-smallholder processing options

WFP would tie its purchasing activities to a programme of training and capacity development designed to build and enhance the market readiness of small-scale/low income farmers.
As a pilot exercise, P4P will initially have limited impact on WFP’s overall procurement activities. It expects to purchase 40,000 tonnes of food in the first year, which is about 4% of what WFP currently purchases in Africa alone. However the prospective volumes are increasing and WFP now expects P4P to affect approximately 10% of its total local food purchases across the countries selected. Whatever the scale of the operation, P4P should provide useful lessons that influence future procurement activities.

During its initial stages P4P has emphasised (through its website and other means) the idea of WFP buying directly from farmers, rather than through middlemen, as practiced under WFP’s mainstream procurement system. At the same time it stated that “ultimately, the intention is not only to capitalise on the market offered by WFP, but also to connect them to other local and regional food markets”, suggesting that at some time in the future it would link up with commercial operators.

WFP now lists commodity exchanges and warehouse receipt systems among the tools it will consider employing under the P4P (see Box 6.1) and, as noted above, has been seeking to do so in several countries.

**BOX 6.1: PURCHASE FOR PROGRESS (P4P) PROGRAMME**

A five year program, 2008-2012
Initial budget: US$76 million
To pilot systems of purchasing from farmers in 21 countries
Options are:
1. Enhancing and expanding competitive tendering practices (for example, reducing tender sizes, waiving bag markings or performance bonds, and purchasing ex-warehouse, commodity exchanges).
2. Purchasing directly from local entities (i.e. farmers’ associations) to support local livelihoods.
3. Contracting in smallholder areas to reduce risk and create greater certainty for farmers in their planning (i.e. forward contracting, warehouse receipts programmes and partnerships with micro-credit and insurance schemes).
4. Developing pro-smallholder processing opportunities.

Annual purchases: 40,000 tonnes of commodities purchased in first year, and increasing thereafter.

*Source: WFP, pers. comm. and website*

As the project advances, certain questions will need to be addressed in this area, notably:

- When procuring through exchanges or the WRS, will WFP procure from all-comers or only from producers and their organisations? So far it has been mainly using P4P to procure directly from smallholders.
- If P4P’s main focus remains one of direct procurement from small farmers, can this be squared with WFP’s earlier misgivings about the economics of such direct procurement, and concerns (picked up in this report) about the sustainability of vertically-organised cooperative federations?
- If P4P involves procuring from all-comers, including regular traders, how will this relate to WFP’s mainstream system of procurement from traders? Can the two systems be integrated, and how can WFP assure a degree of consistency in pricing and procurement terms?

Where WFP seeks to work in partnership with ‘modern market institutions’ such as commercial WRS and commodity exchanges, it makes a lot of sense to procure from all-comers. As noted elsewhere in this report, the success of these institutions is highly dependent on demand and scale of operation; hence one of the keys to their success is maximising throughput. By attracting both smallholder and non-smallholder supply, WFP can encourage larger and more competent warehouse operators to enter the warehousing business and to go to the expense of getting licensed/certified. This similarly increases the viability of any exchange platform linked to the warehouses; the greater the volume of purchases, particularly in the early stages, the greater the liquidity of the institution and its ability to attract buyers.
Work by David Tschirley (2009), of Michigan State University suggests a further reason to opt an all-comers approach. He extols the virtue of ‘first generation LRP’ (i.e. purchase through traders by tender), but raises a question as to the equity of focusing on direct purchase under P4P. In the case of Zambia, which is fairly typical of surrounding countries, a very small minority of smallholder farmers (2%) provide 50% of marketed surplus, while 10%-20% provide the rest. By purchasing directly from small farmers, P4P could not hope to reach 80-90% of them. In another presentation Tschirley (2008) says that the only way to help farmers improve their incomes is to reduce costs in the marketing system, for which purpose WFP would do well to join EAGC, and look for opportunities to use commodity exchanges and promote warehouse receipts. It should be hard-headed in the way it approaches this, expecting efforts to pay off (eventually) in terms of lower procurement costs for WFP and others.

Significantly, WFP has already opted for an open procurement approach in Zambia, using the whole of the Country Office’s resources, not just P4P funds, to procure through ZAMACE’s trading floor. It started purchasing through a system of ‘reverse auction bids’ for the purpose of ensuring transparency, open to the public in general. All parties are free to sell to WFP; and the system is intended to be particularly beneficial to smallholders, since WFP will be putting up bids for commodities to be delivered in rural locations, where smallholder groups can deposit in warehouses and enjoy a logistical advantage.

Public and private warehouses

In the main body of the report, it is noted that warehousing may either develop along ‘private’ lines, where it is primarily a means by which private traders and processors raise finance and (potentially) turn their own stocks into tradable instruments (Approach 2), and ‘public warehousing’ where the warehouse operators do this and (additionally) provide equivalent services to third parties (Approaches 1.a – 1.c). Both types of warehousing are desirable since they can cause value chains to operate more efficiently, but public warehousing is a more open system favouring a large number of suppliers. Public sector buyers like WFP and national parastatals can favour the emergence of licensed public warehouses, simply by requiring delivery in the form of warehouse receipts issued by such warehouses. North American and South African experience suggests that once grain companies become accustomed to operating public warehouses, it is likely to become engrained as part of their overall operation and approach to the farming population.

Procuring through public warehouses in this way allows WFP to bring together the two strands of its procurement activity. Large-scale traders that currently dominate its mainstream supply system will be free to establish warehouses, providing they pass the regulatory thresholds and open up to deposits by third parties (including farmers). Providing they declare their ownership they can supply WRs to WFP, as do their depositors. Smaller, more rurally based operators, can also get licensed, taking advantage of whatever locational premiums WFP offers. When they are located close to WFP’s ‘extended delivery points’ and the places where the grain is consumed, WFP can pass the transport saving on to the suppliers.

Once this regime has been established, collaborating NGOs and development projects can encourage farmers to take advantage of the new facilities. This will fulfil the aims of P4P, without creating parallel marketing structures that are costly for WFP to manage.

Concluding observations

WFP and Gates/Buffet Foundations have made a positive move by joining forces in P4P, which seeks to explore and exploit to good purpose the complementarities between LRP and ongoing market development initiatives in target countries. Hopefully, this is the beginning of a process that will leverage radical improvements in the performance of African grain markets.

As regards implementation, WFP gives a lot of autonomy to its Country Offices, so it is not surprising that their approaches vary widely. The approach adopted in Zambia contains several elements of ‘best practice’ that it would be useful to apply more generally, notably:

- to actively engage with counterparties (locally based institutions and projects) seeking to establish new market institutions
• (where conditions are favourable and WFP wishes to go ahead) to establish a cohesive project team with these counterparties
• to develop an agreed procurement approach that is open to all-comers and integrates the use of P4P and non-P4P funds
• to pay locational premiums or discounts, based on the cost of shipping the commodities to the place where they will ultimately be consumed, and
• to work together with counterparties and WFP HQ in defining detailed procurement mechanisms, amending rules where necessary

In the case of Uganda, the building of warehouses is currently an important component of WFP’s plans, given the shortage of warehouse capacity in that country. While I cannot foresee exactly how this will turn out in practice, I shall mention two possible hazards:

a) donors have a very weak record in this area in Africa, tending to put such assets in locations where they are not needed and/or in the hands of operators without the capacity to operate them, leaving behind a multitude of under or un-utilised assets. The history of the FAO-funded Rural Structures Project in Tanzania, which led to the building of around 1,000 rural stores, is instructive in this regard (see Coulter and Golob, 1992).

b) if WFP and the WRS regulatory body get extensively involved in building and supporting local warehouses, they may find it harder to apply regulatory and procurement rules. For example, if WFP has funded a local cooperative to build a warehouse it may be embarrassing to reject the warehouse operator’s license application when it fails to comply with the rules. If this touches on local sensitivities, it is possible that WFP and the WRS regulator will find themselves under pressure to waive or vary the rules on an ad hoc basis, setting a poor precedent for a regulatory system which needs to be rigorous from the outset.

In view of these considerations, it is probably best if WFP avoids building warehouses, and focuses on its procurement process as the prime tool by which it influences the development of supply channels. If there is a shortage of warehouses and warehouse operators in the country concerned, WFP may seek to address the problem by pre-announcing its intention to procure a given percentage of total tonnage procured in the form of WRs issued by licensed public warehouses, by a given date. This will encourage prospective suppliers to get themselves compliant, and in some cases, to invest in warehousing facilities closer to the source of supply. Other donors may decide to support the construction of warehouses, but these will not be “WFP warehouses”, and it will be easier to turn them down if they are not compliant. When warehouses are not compliant and/or grains of the correct quantity and quality are not available, WFP can fall back on its mainstream tendering system to obtain the quantities it requires.

The same argument applies to warehouse regulators, which should concentrate on training and regulation, and leave to others the building of warehouses, as well as provision of general management and financial support to warehouse operators. At the same time they will need to apply warehouse licensing requirements concerning capital adequacy, having insurance cover in place, grading systems applied etc. very strictly.

The discussion in this Annex also has implications for the donor community which, while funding local and regional food aid procurement, at the same time supports the development of markets and marketing institutions. This is taken up in the Conclusions and Recommendations (Chapter 6 of the main report).

Serious consideration should be given to the possibility of food aid agencies exiting the business of warehousing and auctioning of crops, in favour of these activities being handled by: (a) licensed warehouses, and; (b) local commodity exchanges or auction houses. The latter is applicable to the auctioning of US PL480 wheat which is often monetised by auctions handled by American NGOs. If it can be handled efficiently and effectively, it would be preferable if this could be done by local institutions, and it could set an example for other local procurement activities. Following precedents in certain Latin American countries, like Brazil and Colombia, large areas of public procurement could be turned over to local exchanges.
ANNEX 7: QUESTIONS AND ANSWERS

1. What are the prerequisites for a successful WRS?

Unregulated commercial warehousing requires:

- a workable policy environment, notably that Government does not crowd the private sector out of storage
- that there is demand for receipted produce. This may be a mixture of private and public sector demand, and it may be stimulated by exchange trading mechanisms. There is a ‘chicken-and-egg’ situation here because trading can be greatly assisted by the use of transferable electronic warehouse receipts.
- warehouse operators who enjoy confidence of banks and depositors, with insurance cover as required by these parties. The interest of banks is in turn related to the level of demand for receipted produce.

Regulated commercial warehousing requires the same bullets as the unregulated variety, plus:

- a cohesive team of committed locally-based stakeholders
- that the regulator be efficient, free of corruption and able to resist political interference, and
- a range of regulatory requirements, covering physical facilities, qualifications and training of key staff (notably in the area of grading), financial measures (notably capital adequacy and liquidity), insurance cover for fire and allied perils and theft, and performance guarantees (which normally take the form of bonds or insurance cover – the latter covering professional liability and fidelity of staff and directors).

A well developed microfinance-linked WRS requires:

- target commodity(ies) that have a fairly predictable and substantial seasonal variation
- that village MFIs have the backing of an MF network or other similar bank-based structure, to provide technical support and ensure financial discipline
- local technical capabilities in commodity handling, storage and pest control, and necessary supplies and equipment (fumigation sheets etc.). There are limits to the availability of these in rural areas and on the range of pest control procedures one can safely implement, particularly when it comes to storing in peoples’ houses. For this reason, the approach works better with commodities not susceptible to pests.

2. What are the critical policy issues and how may they be addressed?

- willingness of Government to facilitate development of WRS
- willingness of Government to limit market intervention, and intervene according to pre-determined rules
  - best addressed by building up local stakeholder organisations to engage Government in policy dialogues
  - regional organisations may also assist
  - donors acknowledge their own contribution to the problem, through provision of fungible resources, and adjust approach accordingly

3. What are the main legal issues and how should they be addressed?

The main legal issues are whether: (a) laws recognise a security interest in stored commodities; (b) this provides lenders protection vis-à-vis third parties; (c) they recognise a WR as a document of title; (d) a WR is a transferable and negotiable instrument; (e) a security interest can be given in goods that are commingled as part of undifferentiated bulk, and; (f) the legal personality of the borrower affect’s the lender’s security. Legal issues may or may not be a binding constraint on the development of the
WRS. As noted by Coulter and Shepherd (1995, Annex 2, p.87), "where the economic prospects of the scheme are strong enough, and lenders believe that the practical risks are small, then they may be able to live with a certain amount of legal ambiguity. Where, however, such prospects are not clear and the business culture of a particular country is unaccustomed to what is being proposed, legal uncertainties may present another reason for sceptical participants, particularly banks, to turn away from an uncertain venture. Thus, the development of inventory credit may require some persuasive and creative lawyering, or in the final analysis, legislative reform".

Developing legislation and getting it through parliament is often a long and tortuous task that should only be undertaken where there are compelling reasons; if one can establish the system on a viable scale under the law of contract and enabling elements within the existing legal framework, this is usually the better option. The initial success will galvanise support for legislation at a later date. However there may be cases, such as that of Zambia (Annex 2), where existing laws or jurisprudence are a binding constraint on banks’ involvement. In the light of this, one should address legal issues as follows:

- first ensure that other pre-conditions re workable policy environment, off-take demand, cohesive team and regulator can be met
- if they can, seek local legal advice, and particularly from the legal departments of banks
- seek supplementary advice from lawyers with international experience, and
- if indispensable, draft enabling legislation

If new legislation is introduced it may vest regulatory powers in a given public, private or public-private institution for the licensing and inspection of warehouses, and for the suspension and revocation of licenses. When a warehouse fails to perform as required, the regulator should be able to promptly suspend and revoke its license, and where the assets of depositors are endangered, very quickly put it under ‘administration’ to ensure it discharges its obligations. This will require harmonising the new legislation with that relating to insolvency. It is important to give WRs holders preferred creditor status, but this may prove to be a thorny issue as demonstrated in the Zambian case (Annex 2, Box 2.1).

Then comes the decision as to how wide one extends the regulatory net. The following questions need to be answered:

a) Should licensing be an entirely voluntary matter, according to the wishes of the warehouse operator?
b) Which commodities should it cover: only agricultural commodities, all storable commodities, all commodities + industrial and consumer goods?
c) Should it only apply to public warehousing, or also extend to private warehousing (including collateral managers)

As indicated in Table 7.1 the answers to these questions depend on the circumstances. However, where regulatory capabilities are unproven, the general rule should be to keep the system simple, and ‘grow it’ in as much as it proves itself. It is also important that those drafting laws are clear as to what commodities and warehousing activities are and are not to be regulated, and provide for prioritisation and sequencing of regulatory activities. This is not apparent in the drafting of the Ugandan and Tanzanian Acts.???

Alternatively it may be possible to regulate warehouses under contractual arrangements between the regulator and the warehouse operator, the route followed by SAFEX in South Africa and EAGC in Kenya. The regulator may start in this way, and later be granted more comprehensive powers under law.

If a country passes a WR Act the regulator may initially find it appropriate to keep the Act and emanating regulations fairly general, and put more detailed and particularly commodity-specific provisions into the contract used to license the warehouse operator. Uganda Commodity Exchange adopted this approach when it drafted Regulations and License (see www.uce.co.ug), putting more general provisions in the ‘Warehouse Statutory Instrument’, and more specific details in the ‘Warehouse Operator’s License’. This gives the regulatory agency considerable flexibility and avoids it needing Ministerial or Parliamentary sanction for each and every change. The downside of this is that a regulator may be tempted to use this provision to change regulatory requirements on an ad hoc
and arbitrary basis, in order to meet targets, favour particular interests or other reasons. One needs procedures that ensure contractual rules apply uniformly to all relevant licensees. Moreover, as the system matures and the regulatory body gains experience, rules should be increasingly codified.

4. **How can small producers best gain access to, and benefit from, WRS?**

MF-linked systems appear to offer the best option to small producers who produce small surpluses or no surplus at all. For example, if a group of farmers produces surplus food equivalent to only 10-20% of their home consumption, it is unlikely they will go to the trouble of delivering stock to a commercial warehouse at some distance from their homes.

Commercial systems can however be accessed by smallholders producing substantial surpluses and with a strong commercial outlook are likely to participate. This system is working well with coffee in Tanzania, and with pilot experiences involving grains in Zambia, Kenya and Uganda. Individual smallholders will have difficulty delivering minimum quantities required by a warehouse (e.g. 10 tonnes, 30 tonnes of grain), and will need to form groups in order to use the facility.

5. **How to make warehouse receipt and inventory credit systems sustainable?**

The priorities here are *volume* and *excellence*.

Re *volume*, any type of WRS requires generating sufficient revenue to cover the fixed costs involved. Tanzania’s AMSDP found that it was uneconomical to establish SACCOS-linked grain warehouses of less than 300 tonne capacity, and UCE reached a similar conclusion. Larger warehouses allow major economies of scale in collateral management, warehouse operation and security.

In the case of Madagascar’s MF-linked system (Annex 4), the fixed costs of running individual warehouses are minimal (they are typically rooms in houses holding around 6 tonnes of paddy); however there are considerable fixed costs involved in building up and maintaining networks that can operate this system; the CECAM network has required 16 years of donor support to reach its present status. There are nine unions in the CECAM network and each union has on average 18 branches (*caisses*).

In regulated systems there are major fixed costs both in the running of warehouses and in the regulatory apparatus. The cost of sending an inspector to a warehouse with 200 tonnes may only be slightly less than sending him/her to a 1,000 tonne warehouse, and the same will be true of the regulator agency’s office activities and overheads. The logic of this system is to centralise storage into larger units, up to the point where the economies of scale in warehousing are balanced by diseconomies of transportation from farm to warehouse.

The success of the CECAM network illustrates the importance of *excellence*. One should only embark on a WRS project if there are reasonable chances of maintaining high standards, and keeping politics out of decision-making. Those interested in funding WRS initiatives should look closely at the situation on the ground rather than taking their cue from high-level policy declarations.

6. **What are the pros and cons of different regulatory approaches?**

Refer to the Section entitled “Alternative approaches for Africa”
TABLE 7.1: HOW FAR TO EXTEND THE REGULATORY NET?

<table>
<thead>
<tr>
<th>Question</th>
<th>Answers</th>
</tr>
</thead>
</table>
| a) Should licensing be an entirely voluntary matter, according to the wishes of the warehouse operator? | - Commodity exchanges normally register warehouses for delivery of goods against their contracts, and provide oversight to ensure they consistently meet their registration criteria. This is a purely voluntary arrangement, but it usually extends to a small number of warehouses that the exchange needs as delivery locations. SAFEX, with its 100+ delivery points is an unusual exception to this rule.  
- Mandatory licensing is normally necessary to ensure the performance of many non-exchange warehouses. The USA has done this and gone much further, requiring (in major producing states) that all grain handlers be licensed as public warehouses. The regulatory cost can be spread over large volumes of grain, resulting in a very low cost per tonne handled (less than US 6 cents in the State of Ohio, 1998)  
- Mandatory licensing can guarantee the financial viability of the licensing authority. It ensures that all warehouses contribute to its fixed costs |
| b) Which commodities should it cover: only agricultural commodities, all storable commodities, all commodities + industrial and consumer goods? | - Regulators tend to perform better when they have specialist knowledge of the commodity, as illustrated by a comparison of the US agricultural system and the “General Warehouse” system prevalent in Latin America and other civil law countries  
- However in countries with small volumes of stored merchandise, economies of scale may dictate a wide brief  
- In any case, one should not try to regulate all commodities simultaneously, but follow the US procedure of designating ‘programs’ with their respective regulations for given commodities when it is evident there is demand, and previously designated programs are working well. Warehouse inspectors/examiners must have in-depth commodity knowledge. |
| c) Should it only apply to public warehousing, or also extend to private warehousing (including collateral managers)? | - Regulatory frameworks normally only apply to public warehousing, where there are large numbers of often small depositors. However the regulation of private warehousing should not be ruled out.  
- Both Uganda (UCE) and Kenya (EAGC) have provided for the regulation of private warehousing, and this may be justified: (a) to develop lower cost and more efficient funding and trading, and; (b) to raise standards in a sector damaged by fraud. |