Final Technical Report
The Role of Warehousing in improving agricultural markets (in Africa), Phase II – 9 March 9, 2000

Executive Summary

The project focused on the development warehousing services as a means of addressing weaknesses in African grain marketing systems in the post-liberalisation era, while making use of underutilised stores left behind by disbanded or defunct parastatals. The research would provide African policy-makers with strategies for the development of warehousing systems in ways which would help them to overcome these constraints.

The research involved expert consultation and reviews of relevant experiences in various countries in Africa, the Americas and Eastern Europe, on the basis of which the researchers were able to reach conclusions about strategies appropriate for Africa – the main intended output of this project.

Three different warehousing models were identified, the *regulated elevator-company model*, the *general warehousing model*, and the *private trader model*, each of which could be appropriate depending on local circumstances. Stronger and more comprehensive systems could be built in countries able to develop strong regulatory capabilities insulated from day-to-day political pressures. Various international companies were identified which had the interest and competence to run networks of former parastatal stores. It was also found that warehousing systems should generally be implemented in advance (or at least in tandem with) the organisation of commodity exchanges, not the other way round as had sometimes been attempted in Africa.

The research reinforced the view that stable policy environments with low levels of Government intervention were of great importance to instituting warehouse receipts systems, and attempts to introduce such systems should preferably be made as part of comprehensive policy reform programmes.

No Phase III research had been proposed as originally planned, but some limited follow-up research had been done under World Bank auspices. Outputs had been extensively disseminated through six international conferences and papers written for those conferences, or distributed in proceedings. NRI had moreover been using the findings in consultancy contracts involving Ghana, Zambia, Ethiopia, Mozambique and India. In view of this there was a reasonable prospect of achieving the project purpose of *getting African countries to adopt new approaches to warehousing which stimulated agricultural marketing and hence production*, but much depended on proposers' ingenuity in addressing policy constraints to such innovations.

Background

There were important constraints causing African grain marketing systems to remain weak in the post-liberalisation era, notably poor and costly mechanisms for financing, performance and payment risks associated with transactions, lack of forward contracting and lack of standardised quality and grading. At the same time, there were unexploited opportunities for developing warehousing as a partial solution to these problems, particularly in view of the existence of large numbers of former parastatal stores which remained underutilised.

Previous research was cited in the project memorandum (Section C) and included work since 1993 by NRI, FAO, UNCTAD and the World Bank. Demand was found to come from a wide spectrum of stakeholders including policy-makers, members of the trade, and donor missions (see Section B, 15c).

Project Purpose

The purpose was for African countries to adopt new approaches to warehousing which overcome the above-mentioned weaknesses, and thereby stimulate agricultural marketing and hence production. The project also sought to investigate the appropriate sequencing of activities to develop commodity trade, particularly the timing of attempts to develop warehousing services and commodity exchanges. There had already been various attempts to introduce commodity exchanges as a market development tool in Africa, and their relationship with warehousing was potentially synergistic.

Research Activities

Research activities included the following:

- Work on completion of Phase I outputs, as specified in project memorandum under "Activity 1"
- Consultation with selected experts (mainly in the UK and Europe), as per "Activity 2". Experts consulted were in commodity trade (incl. Glencore, Louis Dreyfus, Cargill, E.D.&F. Mann, AFTA), warehousing and collateral management (ACE, Cornelders, SDV), banking (Standard Chartered, Rabobank), commodity exchanges (LIFFE) – one to one consultation was found to be more practicable than forming a group of experts as originally planned. A standard letter was mailed to various parties potentially interested in developing warehousing functions in Africa and running networks former parastatal stores, and others were contacted by phone; those responding were followed up in greater depth.
- Visits were made to South Africa, Tanzania and Uganda as per "Activity 3". In Uganda the work was assisted by a US-backed NGO which had assisted in drafting a warehousing law and promoted a commodity exchange. Warehouse receipts were found to have taken off in South Africa after the rapid liberalisation of the grain trade, and in parallel with the successful introduction of futures contracts in white and yellow maize on SAFEX. The South African experience was further investigated in a second visit towards the end of the project, and this time a local commodities trader (Paresh Kotecha of B&P Commodities) was hired to assist.
- It was agreed with the Programme Manager not to visit other African countries, but to follow up with countries in Eastern Europe (Russia, Hungary and Poland) which had more experience in the development of warehouse receipt systems. These were investigated as per "Activity 3". In Russia, a local consultant was hired to assist a visit to Krasnodar where Cargill had established a pilot warehousing scheme.
- Re. "Activity 4", previous studies on experiences in Mexico, El Salvador, Honduras, Nicaragua, Colombia and Brazil were reviewed, and Brazil was identified as the country offering most interesting opportunity for field-work. It had a 100 year-old warehousing industry from which new lessons could be drawn, and had recently sought to develop various new agricultural financing products using commodities as collateral. A visit was made to Brazil with short side-visits to Colombia and Argentina, and reports prepared along the same lines as the other case-studies. In the time available, a more detailed report could be prepared in the case of Brazil, and for this purpose researchers from ESALQ, University of São Paulo, were recruited as co-authors.
- It had been planned to make a brief visit to North America, but it was decided to extend this to a full week to look at the system of grain warehousing in the American Mid-West. We did this because earlier consultation had shown that elements of this distinctive model might usefully be reproduced in Africa. Visits were made to USDA and various trade organisations in Washington, the State Department of Agriculture in Colombus, Ohio, and to contrasting elevator companies in northern Ohio. An American banker skilled in this area, Fred Ziegler, and the local office of ACDI-VOCA, assisted in setting up the itinerary.

Outputs

Research findings have accumulated as field-work proceeded. **Output 1** (an assessment of the most effective approaches etc.) has been fully achieved, as can be seen from the following account:

Re the most appropriate warehousing models for Africa:

Around the world there are three models of warehousing which might be applicable in Africa:

(a) The regulated elevator-company model (e.g. USA, Canada), involving stores of private traders being licensed to hold stocks for third parties, including farmers, and rigorously regulated by a central authority

(b) The general warehousing model, involving non-trading companies which store all sorts of merchandise – not just agricultural commodities. The model is particularly developed in "Civil Law" countries, including Latin America and parts of Eastern Europe, where general warehouses are licensed by national monetary or trade authorities. (General warehousing of an unregulated kind is also widely practiced, and in Africa international inspection companies are becoming leading providers. However, services are mostly provided around major ports and in large cities but not in up-country locations where grain surpluses are available).

(c) The private trader model (e.g. Cargill/USAID initiative in Krasnodar, Russia). This is where a private trading company provides farmers (and possibly the trade) the services of an elevator company, but without there being any regulatory framework for this activity.

See illustration in Box 1 at the end of this report.

Model (a) has major advantages over (b), in terms of geographical coverage and financial viability, and specialist competence in agriculture, but (b) and (c) are less demanding of public regulatory capabilities. Model (c) can only be operated by a few large, often multinational, companies, which may not be highly motivated in the African context. It also contains no checks and balances.

All three models are likely to be appropriate in Africa depending on local circumstances. The ideal system is what one might call the *Bundesbank Model*, i.e. model (a), but with regulation by an agency completely insulated from day-to-day political pressures – a difficult political objective. Brazil provided a salutary lesson in this regard – the effectiveness of its 100-year old warehousing industry had been undermined by the lack of effective regulation and the consequent absence of industry standards.

There are various international companies with the interest and competence to run networks of former-parastatal stores, under all three of the above-mentioned models. This possibility is worth exploring when trying to develop national warehousing schemes in Africa.

Re relationship to development of commodity exchanges and sequencing

Generally warehousing systems should be implemented in advance of the organisation of commodity exchanges. Futures exchanges are likely to be inappropriate in most African countries, South Africa being a notable exception due to important pre-conditions (large scale of production, good infrastructure, commitment of financial sector, a pre-existing financial futures exchange and above all a well managed network of warehouses). Physical or "cash" exchanges can work in the more important agricultural economies, but available experience suggests it will not be easy to organise them quickly. Prospects for success will be increased by the prior development of warehousing systems. The development of simple physical exchange and auction systems in conjunction with warehouses is a topic worthy of further research.

Other

The case work reinforced the view that a stable policy environment involving limited Government intervention in grain marketing was fundamental to instituting warehouse receipts systems – e.g. this had contributed to South Africa's success, just as in Russia and Poland high levels of intervention had frustrated the projects we visited. Hungary presented a partial exception but the policy environment had nevertheless been stable. The experiences in Eastern Europe and Latin America, as well as a history of policy zig-zags in African, show that the policy area constitutes a major hurdle affecting the introduction of warehouse receipts systems in most areas of the World, above all with politically-sensitive grain crops. Warehouse receipts systems for grains should therefore preferably be introduced as part of comprehensive policy reform programmes.

In countries which can create secure warehousing systems, the best approach to financing may be through the securetisation of warehouse receipts, e.g. by using them as backing for fixed interest securities to be sold to institutional investors (a practice which has started in Colombia). This would reduce reliance on finance by local banking systems which are often weak and conservative.

Tax concessions may be important in getting warehousing systems (and exchanges) off the ground.

Various international companies are potential candidates for running "copper-bottomed" public warehousing services in Africa.

Re **output 2** (an implementation plan for Phase III), we have not so far proposed a Phase III. We have nevertheless carried out some follow-up desk research for the World Bank, and our report will be shortly circulated as an "internal publication". In it we give full acknowledgement to DFID's prior support to our research activity. Based on our proposals, the Bank wishes to support a warehousing involving small

farmers in Western Kenya. A small proposal for closely related research was also recently approved by ASSC.

Re **output 3** (dissemination of outputs), we have done the following:

Phase I findings have been disseminated through Zambia and Ghana-country reports and workshops. Zambian findings were developed through EU-funded consultancy on a warehouse-linked commodity exchange. A final article has been submitted to the Journal of Agricultural Economics, and a response is awaited.

Phase II: extensive dissemination achieved through publications (see below) and six international meetings:

- UNCTAD "Partners for Development Conference" in Lyon, Nov. 98, attended by leading practitioners in the field – acted as speaker and panelist, and had paper published (see below);
- UNCTAD Expert Meeting on Commodity Risk Management and Collateralised Finance, Geneva, April 98. Presented paper on warehouse receipt financing in Africa.
- FAO/AFMESA meeting in Pretoria, Nov. 98, attended by representatives of food marketing agencies of Southern Africa – the project leader acted as "Key Resource Person", and presented paper
- Two UNCTAD-sponsored conferences on warehouse receipts held respectively in Rio de Janeiro and Bombay, 1999, attended by Duncan Burnett. The *Coulter and Norvell* paper (see below) was circulated to participants as reading material in advance of the conferences
- A conference on "Advancing Microfinance in Rural West Africa, organised by USAID and co-sponsored by GTZ, Feb 2000

The publications are:

- COULTER, J.P. 1998 *Commodity Exchanges and Warehouse Receipts – can they Improve the Performance of African Grain Markets.* Proceedings of FAO/AFMESA meeting – see above.
- COULTER, J.P. and NORVELL, N. 1998 The Role of Warehousing in Africa – Lessons for Implementation from Four Continents, in: *New Strategies for a Changing Commodity Economy; the Use of Modern Financial Instruments.* Selected papers prepared for the "Partners for Development" Summit.

Internal reports on findings in Brazil and USA have also been distributed to interested parties. A final publication has been submitted to *Savings and Development*, which recently responded asking to resubmit with modified format.

Contribution of Outputs

As can be seen from the foregoing, the outputs have already been widely disseminated to intended users, particularly international organisations and developing country Governments interested in implementing warehouse receipts systems. It should also be mentioned that NRI has been making extensive use of the research in the following ways:

- By being contracted by the UN Common Fund for Commodities to implement a project involving the Development of Inventory Credit and Related Food-Sector Improvements in Ghana, Zambia and Ethiopia (value US$ 1.2 million). DfID research funding was crucial in obtaining this commission, as it was treated as "counterpart funding" for the project.
- By carrying out consultancies on warehouse receipts in Mozambique (for FAO) and India (for Forward Markets Commission/World Bank). The potential impact in India is very large, due to the country's large population.

We are also trying to get the two above-mentioned publications accepted by journals, with a view to reaching a more academic audience.

In view of the various dissemination activities, there is a reasonable prospect that the project purpose will be achieved, i.e. *for African countries to adopt new approaches to warehousing which stimulate agricultural marketing and hence production*, contributing to DFID's goal of improving *storage*,

marketing and credit systems. The degree to which the purpose is achieved depends largely on the ingenuity of proposers in addressing constraints in the policy environment, and in bringing about a strong national consensus. Programmes seeking to establish systems of warehouse receipts need to be very flexible – for example by establishing systems for less politically sensitive cash crops which can be subsequently extended to grain crops.

BOX 1: THREE CONTRASTING EXAMPLES OF WAREHOUSE RECEIPT FINANCING

The model	**Regulated elevator company model**	**General warehousing model**	**Private company model**
The case	USA	Hungary	Cargill, Krasnodar, Russian Federation
Policy and regulatory environment	• History of successful private ownership • Strong legal, policy and regulatory framework	• Liberalising economy, with history of strong state ownership • High level of public subsidy for storage	• Heavy public intervention buying • Regulatory processes and standards currently unworkable
Key Features	• Strong legislative basis for standards, warehousing and commodity exchange • Large number of licensed (trading) elevator companies • High level of farmer protection through licensing, inspection, bonding etc. • Negotiability of receipts on a commodity exchange and/or bilaterally	• Legislation governing standards and warehousing • Weak system of public oversight • Only (3) licensed non-trading general warehouse companies • Large-scale management of on-farm stores • Bi-lateral (e.g. bank to bank, or bank to miller) negotiability of receipts	• No effective legislative framework for lending to farmers • Initially sponsored by USAID • Farmer deposits collateral at warehouse, grain is independently inspected • Trading company provides credit directly (not through bank) against title document
Performance	• "Text-book" style performance, with standardised qualities, highly efficient marketing and input supply arrangements, and low risks. • Past success of the system has reduced the need for warehouse receipts under current circumstances.	• Major impact over 6 year period, with annual lending against receipts reaching US$100 million • High level of lending against on-farm grain • Problems of grain standardisation making exchange-based negotiability unrealistic.	• Potentially quick results as requires minimal state involvement • In practice limited impact due to lack of "carry structure" in market prices