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**Proceedings
Commodity Storage and Loss Reduction Project
Dissemination Workshops**

**Port -Au-Prince, Haiti June 29 - July 2, 1998
Johannesburg, South Africa July 27-29, 1998**

**Workshops hosted by:
CARE
Catholic Relief Services
Food Aid Management
World Vision Relief and Development
and
USDA/OFDA**

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B

List of Acronyms

BL	Bill of lading
CCC	Commodity Credit Corporation
CSB	Corn Soy Blend
C&F	Cost and Freight
CRS	Catholic Relief Services
CSLRP	Commodity Storage Loss Reduction Project (also referred to as CLRP Commodity Loss Reduction Project)
CSR/RSR	Commodity Status Report / Recipient Status Report
FAM	Food Aid Management
FIFO	First in - First out (warehouse storage procedure)
FFW	Food for Work
GOB	Government of Bihar
GOH	Government of Haiti
ICD	Inland Container Depot
IFB	Invitation For Bid
KCCO	Kansas City Commodity Office
KCMO	Kansas City Management Office
KSU FFGI	Kansas State University Food and Feed Grains Institute
OP/Trans	Management Bureau - Office of Procurement/Transportation Division of USAID
RTE	Ready to Eat
UP	Uttar Pradesh
VLOP	Vessel Loading Observation Procedure
WFP	World Food Programme
WVRD	World Vision Relief and Development
WVSL	World Vision Sierra Leone

**Commodity Storage and Loss Reduction Project
Dissemination Workshop**

**Port -Au-Prince, Haiti June 29 - July 2, 1998
Johannesburg, South Africa July 27-29, 1998**

Objectives for Workshops

- 1.) Share activities and results. All participants will learn about the CSLRP activities to date and take home specific practical tools aimed at reducing commodity loss.
- 2.) Participants will be stimulated to think of other ways of improving efficiency and decreasing losses. New thoughts and ideas for further commodity loss reduction activities/ research and improved efficiency will result.
- 3.) The lessons learned from this workshop will be shared with a broader audience (PVOs/USG/food managers) in addition to the workshop participants to increase efficiency and decrease losses.

History of CSLRP

Beth Stanford, USDA/OFDA

In FY 96, the US Congress decided to support a modest initiative that would attempt to decrease US government-donated grain losses by improving weatherproof storage in overseas locations (see Attachment A for the legislative language). OFDA/PMPP division was tasked with the initiative and developed the Commodity Storage and Loss Reduction Project (CSLRP) with the objective of demonstrating grain storage and packaging methods that would decrease food aid losses. After numerous discussions with USAID's Office of Food for Peace and the US Department of Agriculture's PL 480 staff, it was decided to implement this project with US PVOs, the front-line managers of US Government food aid programs, and grants with CARE, CRS, and WVRD were developed. The project was funded with \$3 million for one year; a no-cost extension of one year was later granted to complete the wrap-up of the project. In late October/early November of 1996, representatives from the PVOs, FAM, Food for Peace, USDA, and OFDA came together in the first of regular coordination meetings to define overarching elements of CSLRP. Outside technical assistance was used to develop a general framework for the program. The project has been coordinated by OFDA/PMPP's Famine Mitigation Activity (FMA), a joint project with the USDA. FMA has also facilitated the provision of technical assistance to the NGOs from experts at the USDA and at Kansas State University's Food and Feed Grains Institute. The current grant is to be completed by September 30, 1998 and the possibility of follow on grants is being explored.

Outcomes

It is anticipated that these workshops will have several beneficial outcomes for Private Voluntary Organizations, the United States Government, and other institutions that are involved in the transport, storage, and distribution of food aid commodities. These outputs include:

- A workshop proceedings
- Expanded information dissemination on how to reduce food aid losses
- A Commodity Storage Loss Reduction website where information will be posted
- The identification of future operations research needs

Section I
Port-au-Prince, Haiti
June 29 - July 2, 1998

I. Day 1 Monday, June 29

Commodity Storage Loss Reduction Project Summary of PVO Activities

A. In-transit at Sea; Unloading at discharge port; Port storage; and Transfer to distribution centers

CARE Overview

Walter Franciscovich, CARE/Atlanta

The objective of CARE's CSLR Project is to develop feasible cost-effective methods of reducing commodity losses to ensure that commodities reach the intended beneficiaries. The CARE CSLRP goals are as follows:

- Conduct baseline study; identify types of losses and where in the pipeline losses occur
- Review CARE Commodity Management practices; determine with Country Office (CO) staff the areas for pilot tests and improvements; assist staff with training when needed
- Test options and innovative methods of packaging, shipping, handling, and storage
- Provide recommendations to improve commodity management practices and minimize losses
- Interface with other CARE departments and CSLRP partners
- Conduct dissemination workshops and share findings
- purchase scales, moisture testers, pallets and reconstitution materials
- provide computer and commodity management training for CO Commodity staff
- improve commodity management software and equipment
- develop a supply chain model to determine specific cost factors involved in the food aid pipeline

After conducting a baseline study to identify the types and location of losses, CARE conducted pilot tests for the following areas: 1) packaging of commodities; 2) handling of commodities throughout pipeline; 3) various modes of transport; and 4) routing of shipments. Country offices conducted tests of alternative vegetable oil packaging, compared containerized and break bulk cargo shipments and routing, and conducted pre-slung break bulk cargo shipment pilot tests.

Alternative Vegetable Oil Packaging Tests

Three country offices (Guatemala, Ethiopia, and Angola) tested alternative vegetable oil packaging. CARE-Ethiopia, for example, conducted packaging test shipments of 1500 MT of oil in 4 liter rectangular tins and 500 MT of oil in 4 liter cylindrical tins. The oil was shipped on the same vessel to the same destination port for a more accurate comparison. The rectangular tins incurred marine losses of 6.6 MT, or .44%, while the cylindrical tins had marine losses of 3.4 MT, or .68%.

Containerized vs. Break Bulk Cargo and Routing Tests

Containerized vs. break bulk cargo and routing tests were conducted in India and Angola. The CARE India test compared the transport of corn soy blend (CSB) and vegetable oil in containers routed via Mumbai to New Delhi via piggyback rail versus the break bulk shipment by LASH barge through Calcutta to New Delhi by truck. The pilot tests showed that the break bulk shipment routing took a total average transit time of 72 days versus 53 for the container test shipment routing. The container and

routing tests also revealed cost savings (in freight cost and handling losses) to both the governments of India and the US.

CARE Angola concluded that containers, as opposed to break bulk, should be the method of transport for vegetable oil shipments to Angola. The use of containers averted pilferage, diminished handling losses during unloading, and were more secure. In-transit losses were prevented by destuffing the containers at the CARE warehouse; overall, there were virtually no losses on the container shipment.

Pre-Slung Break Bulk Cargo Shipment Tests

Pre-slung break bulk cargo shipment pilot tests were conducted in India and Angola. In Angola, corn and pinto beans were shipped to the Port of Lobito; CARE found that pre-slinging break bulk bagged commodities minimized handling and reduced vessel loading and unloading damage and loss. (Please refer to data in Attachment B). It was determined that pre-slinging should be considered for high value bagged commodities destined for ports with a history of poor handling practices by stevedores. However, the test revealed that pre-slinging is usually not a cost-effective method of reducing commodity losses, that stevedores require training and supervision to ensure proper unloading practices for pre-slung shipments, that some ports or warehouses lack the equipment required to unload slings, and that direct load trucks may not have the capacity to receive pre-slung cargo.

CARE-India found similar results in the comparison between pre-slung and loose CSB (loaded at LITCO/Memphis on LASH barges for Calcutta). Pre-slinging did not reduce marine and port handling losses in Calcutta, but did improve loading and unloading time of barge.

Based on these studies, CARE developed several recommendations for improved port operations and standard practices.

Recommendations for Improved Port Operations

- Stipulate clause in shipping terms stating "no night discharging of vessel"
- NGOs should assign a port officer to supervise unloadings
- Hire reliable surveyors (not necessarily lowest bidder)
- Avoid storage at port warehouses
- Direct load to trucks for break bulk shipments when possible
- Utilize containerization whenever feasible and minimize use of tramp charter vessels
- Have reconstitution materials stocked/available at the port
- NGOs must maintain close relationship and communication with Port Authority Officials, host government counterparts, ship agents, freight forwarders, surveyors, donor agencies, NGO partners and transporters.

Recommendations for Standard Practices

- Call Forwards: monthly requirements with reserve stock; avoid large shipments/long term storage
- Documentation required for customs clearance should be received by CO well in advance of vessel arrival
- Include penalty clause for all in-transit losses in transport contracts above the local market value
- Coordinate truck convoys during periods of insecurity or for delivery to insecure areas
- Treat food aid commodities as cash assets with \$ value
- Accountability: maintain proper documentation
- Focus on training of Commodity Management Staff
- Communicate and receive feedback from field staff; maintain regular meeting schedules
- Adopt First In /First Out warehousing system (FIFO)
- Immediately separate spoiled/infested commodities

- Monthly warehouse inspections and inventory of physical balances vs. book balances
- Ensure that needed equipment and materials are available at the warehouses
- Stress good security practices at storage sites

CARE/Peru Overview

Jose Aquino and John Granda, CARE/Peru

An overview of CARE/Peru's food aid activities and food logistics unit was presented.

Catholic Relief Services (CRS) Overview

Kevin Tobin, CRS/Baltimore

CRS is involved with a number of CSLR Project activities which are detailed Kevin Tobin's Overview in the Johannesburg section on page 18.

Between 1993 and 1997, CRS experienced a loss of 440,000 units of all CRS commodities shipped abroad (1.73%); half was short-landed. As a result, CRS investigated the "ocean" losses that occur in transit from the US to foreign ports. CRS hired an independent survey company to examine a CRS/Madagascar call forward and to look at the quantity and quality of commodities as they moved along the food pipeline from the mill to the foreign warehouse. At the US port (Lake Charles, Louisiana), several problems were identified and a detailed accounting, as well as resulting recommendations, are included in Joe Gerstle's presentation in the Johannesburg section, page 22.

Discussion

Steve Searcy of the Commodity Programs Debt Branch of USDA/Kansas City interjected that as a result of CSLRP his office is in the process of expanding the Vessel Loading Observation Procedure (VLOP) to include all commodities, not just blended commodities. In addition, they are developing a notice to the shipping companies that the Bill of Lading must detail the commodities that are actually loaded onto the vessel, not what is received from the supplier.

B. During Storage at Distribution Centers

World Vision Relief and Development (WVRD) Overview

Carol Horst and Leland Brenneman, WVRD/Washington, D.C.

WVRD's CSLRP objective is to reduce constraints associated with food aid commodity, seed, and post-harvest losses in four countries through the implementation of a pilot project to test the effectiveness of GrainPro cocoons and silos. The project implementation activities are as follows:

- *Angola:* compared warehouses to hermetically-sealed silos, tunnels, and cocoons for storage of food aid commodities; one small seed/post-harvest test
- *Mozambique:* traditional local storage was compared to hermetically-sealed silos, tunnels, and cocoons for storage of post-harvest domestic production
- *Sierra Leone:* compared warehouses to hermetically-sealed silos, tunnels, and cocoons for storage of food aid commodities
- *Sudan:* compared warehouses to hermetically-sealed cocoons and tunnels for storage of locally purchased grain and seed

Specific test results are detailed in the Johannesburg section: Angola--page 29, Mozambique-- page 30, Sierra Leone--page 28, Sudan--page 32.

CARE Storage at Distribution Centers
Holly Solberg, CARE/Atlanta

CARE's CSLR storage activities included the following:

1) Proper/Adequate Storage Facilities

CARE reviewed alternative storage options to assess which methods were effective in reducing commodity loss for both short and long term situations requiring commodities in emergency (WFP activities in East Africa) and in development programs (Guatemala and Ethiopia). Free-standing temporary structures, called Rubbhalls, were tested in Angola and 2-10MT and 2-20MT cocoons were sent to Ethiopia for testing.

The cocoon tests found the following:

- reluctance to use cocoons because of high initial cost, unfamiliarity with the product, and staff was not convinced of benefits
- difficulty with proper set up in field without clear and complete instructions
- tests to kill weevils in wheat were not shown to be effective, perhaps due to poor sealing of zipper (in Ethiopia)
- the cocoons were not secure structures and leaving them without constant monitoring posed a security threat
- for insect control, it is cheaper to pay for local workers and insecticide than to purchase costly imported structures

It is recommended that very clear instructions on the proper assembly of cocoons are supplied; that all available training materials are used; that the usage of a cocoon is closely monitored to ensure that proper procedures are followed; and that test areas are secure.

2a) Kansas State University Food and Feed Grains Institute (KSU FFGI) Study of Hermetic Storage:

CARE contracted FFGI to perform two studies in order to support CSLRP. The first study reviewed the effectiveness of hermetic storage of grain and grain products. The following benefits of cocoon use were identified:

- good for long-term storage of commodities in one location
- one of the few available alternatives to traditional storage methods
- controls insects without chemicals by changing O₂/CO₂ ratio of internal atmosphere until it is toxic to insects
- average moisture content of grains varies little from initial loading until removal (per previous tests)
- durability of storage cocoons is reportedly very good
- effective against rodents (bags must be tightly packed)
- useful for low-moisture ($\leq 13.5\%$ moisture) commodities where insects are main cause of deterioration

The following negative aspects of hermetic storage were identified:

- security issues: these are not "stand alone" units
- because of time constraints, the research studies contained no cost/benefit information useful for generating return on investment comparisons between hermetic storage units and traditional storage methods
- hermetic seal will be destroyed and the protective interior atmosphere will be eliminated if commodities are moved into/out of storage frequently
- operational costs increase if frequent moving is necessary

- time required to make sure bags are correctly stacked/restacked. If bags are not at least 75% filled, the bag is slack and easy for rodents to puncture/destroy.

2b) *KSU FFGI study on the effects of storage and transportation on the nutritive value of grains and grain products.* The findings include the following:

- transport and handling may affect nutritional quality if the commodity not protected against elements, contamination, or packaging damage
- deterioration is mostly due to molds and insects as opposed to "natural" processes of the grain
- high temperature and moisture accelerate the deterioration of commodities
- it is not the length of storage time but poor storage conditions that lead to significant changes in nutritional content of grain-based commodities
- high moisture content may be more damaging to food than high temperatures
- low moisture content results in less loss, especially at high temperatures
- at high temperatures, dry commodities maintain quality better than moist ones.

3a) *Monitoring Studies in India*

A monitoring study was conducted in Bihar and W. Bengal States to 1) review possible areas where monitoring food commodities in Bihar's Integrated Child Development Services (ICDS) project may be improved, and 2) to provide recommendations to Government of Bihar (GOB) for improvements.

The study found the following:

- transportation from port to storage and distribution centers is erratic, delayed, and inadequate which results in a loss of feeding days
- there is often a lack of supervision from the Government
- delay in clearing transport bills by Government of Bihar
- workers are not reimbursed for their costs
- commodities are often stored at the homes of workers where conditions are usually inappropriate for storage and where there is a temptation to use commodities for personal use or profit
- inventory records are very crude
- ration sizes are not consistent
- stock ledgers are not closely monitored – quantities delivered do not match quantities on ledgers
- community members claim food is pilfered or sold
- CSB is sometimes sold to cattle feed vendors instead of distributed to intended beneficiaries.

Next Steps:

- CARE will look at the possibility of containerizing commodities.
- CARE will work more closely with GOB on controls to monitor commodities.
- CARE Field Officers should spend more time at distribution sites, ensuring proper commodity management practices are carried out.
- GOB should carry out intensive training of officials, field workers, and women in the communities.
- Activities should be monitored by committees that will ensure community involvement and fairness.
- GOB needs to take action against inappropriate use of food commodities.
- GOB must increase accountability for use of PL480 commodities or CARE will consider removing its support of ICDS program in Bihar.

3b) *A Ready-To-Eat Study of Uttar Pradesh, India* was conducted to 1) review various aspects of RTE in the Uttar Pradesh Supplementary Nutrition Food Program for Pre-school children, pregnant women, and lactating mothers, 2) review the appropriateness of Supplementary Nutrition (SN) in CARE-supported programs, and 3) recommend alternatives, if any, to the existing RTE program in UP.

The following issues were raised by the CARE study:

- nutritional loss during reprocessing
- cost effectiveness of SN
- nutritional requirement, composition and values of SN
- acceptance of SN by beneficiaries
- alternatives to RTE
- community participation
- logistics: programming chains of SN

Recommendations:

- CARE should change port of discharge for Title II commodity shipments from Calcutta port to Delhi to reduce costs, reduce commodity loss, and ensure quicker delivery of cargo at processing plant.
- CARE should take periodic commodity samples to ensure quality control and nutritional values.
- CARE recommends continuance of RTE to avoid misappropriation of Title II commodities and to avoid disruption of SN program.
- Ensure nutrient content of commodities meets standards.
- Provide nutrition and health education to mothers.
- Ensure beneficiaries like the food--that it is easy to prepare with a good flavor.

4) *Commodity Management in Ethiopia*

Scales, portable moisture testers, reconstitution materials, and pallets were purchased to improve warehouse commodity management.

- The moisture testers are used to determine if commodity weight loss is due to moisture loss. (Wheat should have 10-13% moisture, but in Ethiopia it consistently arrives to warehouses with 6-10%). Final results are not yet complete, but depending on findings, perhaps AID should consider increasing the quantity of wheat shipped to compensate for moisture loss. The less moisture present, the longer the commodities will last. However, with significantly less moisture, the ration size to beneficiaries will be affected.
- The scales are used to increase the accuracy of weighing food rations. Beneficiaries complain that rations are not consistent. CARE staff claim that wheat bags arrive 3-5 kg short. CARE recommends maintaining accurate scales. It is important to be consistent and to monitor regularly to ensure that food is being weighed correctly.
- Reconstitution materials are necessary for immediate repackaging when original cartons are damaged by leaking oil. CARE-Ethiopia should request that USDA supply extra reconstitution materials with food shipments, as it will be cheaper than procuring the materials locally.
- Pallets were procured to assist with the identification of leaking oil tins. In Ethiopia, local materials are more costly to procure than to import and the pallets allow for safer storage. All commodities should be stacked on base pallets. Cartons of oil should never sit on the floor.

5) *Accountability:*

We should always be asking ourselves and our organizations:

- Is monitoring in commodity management emphasized?
- Are reporting responsibilities clearly defined? Do all personnel know their accountability?
- Is storage time kept to a minimum?
- Are best storage methods/conditions maintained?
- Who is accountable for the "bottom line"?
- How often are ledgers/reports reviewed?
- Are staff continually trained and supported in commodity management?
- Is there effective communication between NGOs, government officials, port authorities, donors, etc.?
- How do these issues affect our ultimate objective of assisting people in need? It is vital to remember that each person working along the pipeline plays a key role in ensuring the integrity and quality of food aid programs.

6) Storage Conditions at End-Site Distribution Centers
(example presented by Emilse Sagastume from CARE/Guatemala)

An overview of CARE Guatemala food losses from humidity, spillage and shorthanding was presented.

Oil Packaging Tests: In August 1997, CARE Guatemala conducted tests using 18.46 kg pails as an alternative to the traditional 194.59 kgs oil drums. The pails, distributed to 100 mostly small distribution centers, were easy to handle and to transfer to remote locations. The pails allowed for easy pouring of the product into beneficiary containers, and the empty drums were cleaned and used as water or grain containers by the beneficiaries. The pails were easier for beneficiaries to maneuver and there was less risk of injury from falling oil containers. Because of the high risk of theft (due to lack of security) at the urban distribution centers, CARE/Guatemala recommends that the small packaging be used only at small or remote distribution centers.

Experiences with Cocoons: CARE/Guatemala installed cocoons in the following areas: Rabinal, Baja Verapaz (50 MT capacity cocoon), Carchá, Alta Verapaz (50 MT capacity cocoon), and at the warehouse in Guatemala City (150 MT capacity cocoon). The cocoons protected the commodities from animals, rain, and sun and kept the commodities at the appropriate temperature. The cocoons allowed for easy storage of the commodities and were found to have low operational costs. However, 6 to 8 workers were required to handle a cocoon, cocoons were difficult to clean, and a stage and a fence had to be built for cocoons to prevent theft.

CRS Storage Units
Kevin Tobin, CRS/Baltimore

In Liberia, the cocoons were used to "clean" infested commodities in warehouses, to extend the shelf-life of commodities, and as distribution centers in rural areas that lack storage sites. The cocoons offered increased flexibility in addressing refugee, warehousing, and climate challenges, and allowed for fuel and transport savings. The cocoons proved to be portable, manageable, and pesticide-free. However, there was some initial resistance to using the cocoons as well as security concerns that limited the use of the cocoon in some areas. The Rofi Tent was also tested for short-term storage and distribution of commodities in Liberia. The tents, designed for daily in-out use, are portable and easy to use, but are costly and subject to puncture and damage.

Cocoons were used in five schools in Haiti for short-term storage. The cocoons provided rodent protection, weather resistance, and increased flexibility in transport schedule. There were some difficulties with the cocoon zipper; security concerns; the cocoons had to be at least 3/4 full; and the school staff preferred storage rooms for frequent in-out operation. Cocoons were also tested in 3 locations for storage of locally-produced grain. The two main benefits cocoon use were 100% control of insects and the maintenance of grain quality. One location experienced difficulty with weevil damage to the cocoon floor which later led to rodent and moisture problems. Security and initial cost were the primary concerns.

In Guatemala cocoons were compared with locally made metal silos for storing grain purchased from other regions and sold locally. The following advantages of the cocoons have been reported: weather proof quality, can be used for large volumes, easily transported, controls pests, no insecticide is needed, and easily filled. The disadvantages reported include: higher costs, experience of spontaneous opening of the cocoons in high heat, and the fact that cocoons are an imported technology. The benefits of metal silos include: family sized; require little maintenance and are easy to repair; relatively easy fumigation;

hermetic seal possible; materials are available and can be made locally; and they are able to store various amounts. However, the silos take up space, are difficult to transport, require insecticide, need pallets, and are not weather-proof.

Cereal banks have been raised as one option for grain storage. Cereal banks are village cooperatives that buy, store, and sell grain with the intention of promoting food security. Data show, however, that cereal banks rarely work. Grain trading is both risky and competitive and covering costs is difficult, as is sustainability. Cereal bank decisions are made by committee which tends to slow the reaction time to market changes. Cereal banks rarely use local capital, and it is a myth in many parts of West Africa that farmers sell low and buy high.

II. Day 2 - Tuesday, June 30

C. Related CSLRP Presentations/Discussions

D. USDA Commodity Packing Issues - Overview

Case Study-Test Shipment of new bags of blended commodities to Madagascar and Peru
Ben Myatt, Packaging Specialist, Procurement and Donations Division, USDA

The primary purpose of packaging is to ensure that commodities are delivered in a safe, sound, and wholesome condition. Several factors are considered in developing the appropriate packaging, including handling (improper handling is the most common cause of loss), type and condition of vessels, in-country storage, internal transport (e.g., condition of roads and modes of transport), location of recipients, and security.

The Procurement and Donations Division is working to improve packaging. Some improvements have been implemented at the mill point, including lot printing to trace quality problems, seal testing, and doorway protection. The leakage problems associated with the oblong vegetable oil canister have been rectified with the cylindrical can; the cans have also recently been strengthened to double their load bearing and stacking strength and have been corrugated to give them greater dent resistance. A new, square, stronger, laminated flour bag is being tested in some areas; the bags are manufactured with gussets to stack more neatly and easily. A "Super Bag" for CSB was shown to be stronger and more durable.

E. Overview of Claims Procedures and New Software Capabilities for Monitoring Losses

Steve Searcy, Commodity Programs Debt Branch (CPDB), Debt Management Division,
USDA/Kansas City Management Office

An important element of partnership required for successful commodity shipments involves improved communication. Communication with regard to marine debts must be two-way, timely, open and candid and must follow proper protocol.

Debt Management-- activities undertaken by the Commodity Programs Debt Branch

- Commodity procurement-- by KCMO with USDA
- Export Positioning--i.e. the office involved with the issue, whether it's transportation, logistics, USAID
- Prima Facie Case--the preliminary indication, or the burden of proof of cargo loss--meaning it must be proven when, where, and how losses occurred. The carrier is only responsible for cargo up until delivery at the port

- Carriage of Goods by Sea Act of 1936 (COGSA)—17 defenses of COGSA, which is the statute KC has to work with (see Attachment C for full listing)
- Debt Resolution—through a negotiated settlement or litigation
- General Average—a maritime term meaning a shared loss. If a vessel is not able to complete the voyage successfully, interested parties have to agree to contribute the appropriate percentages necessary to complete the voyage

Debts due to Marine Cargo Loss and Damage

- how debts arise—KCMO will file if PVOs do not have the staff to pursue the debt claims, but KCMO needs permission to do so on behalf of the PVO
- types of debt: bilateral and PVO
- notice of loss—PVOs must provide carrier with official notice within 3 days, per COGSA
- bulk cargo losses—difficult to prove. It's hard to go to court with less than 1 1/2% losses.
- container shipments—need to make sure surveyors get the details to help in factual disputes
- excess landed cargo—may not be accepted or allowed
- lighterage—lightening operations. When large vessels are not able to go into port, they may need to load out light vessels—this is the responsibility of the carrier. PVOs need to monitor this and offer input on the best light vessels.
- carrier outturn—this is the carrier's perspective on the events. The carrier will likely have its own surveyors, and KC is skeptical of these
- official post outturn—equally unreliable
- short-landing losses—make sure someone does load count, weight, etc. This accounts for about 50% of losses incurred

Surveys

- PVOs have authority to contract their own surveyors; some rely on the KC office
- if PVOs use a different surveyor, they can be reimbursed, but a delivery survey will not be paid for if they do not have a discharge survey
- KC encourages PVOs to do both delivery and discharge survey
- KC surveys are done by the lower bid and impose penalties if surveyors do not provide the full information in a timely fashion
- format is not strict, just needs to be timely
- surveyor's opinions are allowed
- PVOs should be involved and present in the planning
- can do joint surveys—need to compare figures and reconcile differences
issues of concern and notice to all surveyors—see Attachment C for details.

F. USDA Commodity Shipment Procedures

Richard Chavez, Program Manager, Food for Progress, USDA

Factors that have led to delays in the delivery of commodities or the deterioration of the quality of commodities for Food for Progress programs include: 1) commodity specifications, packaging, and labeling; 2) documentation; 3) customs, duties, and taxes; and 4) market.

It is important that the PVO give as much detail as possible about the commodity that is requested. For example, merely requesting "rice" is not sufficient, as USDA will purchase the cheapest variety of rice, but not necessarily the rice intended for the PVO's program. PVOs should specify whether it should be par-boiled or not, long grain or short grain rice. The same level of detail should be applied to all

commodity orders when possible. If a commodity will be used for monetization, it is important to request that the standard "not to be sold or exchanged" markings are removed from the commodities.

The PVO must have a clear understanding of all of the required documentation in the shipment process. The documentation is often subject to change (e.g., in the Former Soviet Union) and without a definitive list of the required documentation, the delivery will be delayed. Similarly, it is essential to know which customs, duties, and taxes to which the commodity is subject. For instance, some countries may treat commodities that are intended for direct distribution differently than those that will be used for monetization, or in some cases buyers for a particular commodity may fall through. It is vital to know your market and buyer to avoid these problems.

G. Commodity Management and Accountability: The WVRD Perspective

Walter Middleton, WVRD Regional Relief Office/Johannesburg, RSA

Food, like money, needs to be accounted for in a professional manner. Proper systems need to be put in place so that every grain of food aid can be accounted for. Staff members must learn *on* the job and through workshops and training programs.

From 1989-91, World Vision held several major food aid workshops and training programs to produce a comprehensive food aid relief manual to be used within the WV Partnership worldwide for a uniform system of accounting and reporting. Over the years WV has developed a series of training materials to train and develop staff in all aspects of commodity management and accounting and ensure that the maximum amount of food that is called forwarded and received is distributed to recipients with minimum losses.

When handling food aid shipments from 100-200 MT to 10,000-100,000 MT there are bound to be losses. Every attempt **MUST BE** made to ensure that losses are kept to the minimum. At every stage there should be checks and cross checks. Lost and damaged commodities can take months to replace if one is lucky in getting a replacement. Constant monitoring of food aid at every stage is essential. **Presence! Presence! Presence!** Staff will need a thorough knowledge and understanding of food aid management.

To help train staff, World Vision has developed the following training materials: Relief Commodity Manual; Food Monitors Manual; Warehouse Management and Storage Manual; Commodity Management Training Video; and laminated charts on good practice storage in warehouses. These materials include several detailed guidelines on commodity management.

H. Commodity Management and Accountability, CARE

KM Adeeb, CARE/Atlanta

Commodity handling differs between the commercial sector and humanitarian assistance organizations. In the commercial sector, local traders tend to receive priority in obtaining berth space and access to port equipment and other facilities due to political and financial influence. Often, berth preference is given to frequent voyagers. PVOs tend to be a lower priority due to lack of political and financial influence and infrequent shipments. The value of assistance commodities is treated as less than that for commercial shipments.

The workshop participants were asked what the PVOs can do to receive equal priority without using any political or financial influence. Suggestions included the following:

- 1) Force competition between ports. This can take place between countries or when there are multiple ports within countries.
- 2) Have open communication. For instance, the PVO can advise the appropriate individuals of the ship's arrival information.
- 3) Maintain good relations with host country officials, USAID, and agricultural personnel at the Embassy. In this manner, the PVO should be able to call on the USAID mission for help if needed. The PVO can solicit the assistance of the agricultural attaché in the Embassy or the FFPO in the USAID Mission.
- 4) PVOs can form a partnership to resolve some issues.
- 5) Completion of pre-shipment and arrival documentation in advance.
- 6) Form consortium/group of directors to handle procedures.

While traders have their own built-in security systems to protect their food commodities, PVOs have to depend on the local law-enforcing authority which is often ineffective or non-existent. The workshop participants were asked to offer suggestions as to what measures PVOs can take to protect their food commodities and minimize food losses:

- 1) Dedicated, secure warehouses.
- 2) Move the commodity out of the port quickly through direct off-loading.
- 3) Do not use port warehouses.
- 4) Be present as much as possible.
- 5) Trucks can form convoys to increase protection.
- 6) PVOs should share information about security issues with one another.
- 7) PVOs should share security information with the shipping agent.

Commercial importers generally sustain insignificant losses because they have strict supervision and control and have a quick turnover to the next-hand wholesaler or retailer. Humanitarian commodities, however, are more vulnerable to pilferage from the port to the end-use center because they are often viewed as food for the public or as part of a government program for the people. In response to this challenge, the workshop participants were asked to consider what steps a PVO can take to minimize losses and vulnerability to pilferage at the destination port, during inland transportation, at the PVO warehouse, at the end-use center, at the time of distribution, and when declaring spoilage:

- 1) Inform local authorities of all movements.
- 2) Involve beneficiaries in the process; inform them of the purpose of the program and to encourage them be accountable to protect the commodities as well.
- 3) At the warehouses, make sure the commodities have safe packaging (which often means larger to avoid theft).
- 4) It would be useful to ensure that warehouse employees are not allowed to enter the warehouse with bags, etc.
- 5) Strict rodent control is very important at the warehouse.
- 6) During distribution, monitoring is extremely important
- 7) Advanced planning for distribution is essential.
- 8) Make sure that there is minimum storage time and minimum stock at the end-use center.
- 9) Make sure to have complete equipment at distribution.
- 10) When declaring spoiled food, immediate reconstitution is important.
- 11) Make sure to separate the spoiled and good cargo and make sure not to throw away the good commodities.
- 12) Practice first in, first out procedures.

The implications for the commercial sector of food losses differ from the implications for the humanitarian sector. When traders file marine claims, they receive financial reimbursement from the

shipping lines or the insurance company. When a PVO files marine claims, the donor receives the financial reimbursement and the lost food is generally not replenished. Furthermore, the PVO is held liable for losses if marine claims are not filed.

Given these issues, it is important to "Protect! Protect! Protect!" and "Document! Document! Document!" and "Report! Report! Report!". It is essential to maintain physical security and accuracy of stock counts, including the identification of losses.

CARE's goal is to enhance and strengthen the capacity of CARE and its partners to manage commodity resources and account for the commodities in accordance with CARE and donor requirements. As part of this effort, CARE will conduct a baseline survey on the existing capacity and expertise available in the country offices and their partners, identify areas for training and technical assistance needs, and organize appropriate training programs.

CARE aims to establish an effective network of commodity management and logistics specialists within CARE to assist in training and network activities. In addition, CARE will develop a network of commodity management specialists among PVOs and establish a strategy for sharing information and exchanging technical support. CARE will invite these outside specialists to be trainers in CARE workshops. CARE will also encourage PVO participation to generate appropriate tools to reduce commodity losses and promote generally accepted standards for managing commodities.

In an effort to provide technical assistance to country offices and their local partners, CARE aims to create a range of options to disseminate information, such as: an updated food resources manual, an interactive workbook, a training guide for country offices, a video, publications, workshops, and cross-visits.

CARE/Atlanta will hold a Foundation for Commodity Management Workshop on August 24-28, 1998. Participants will include CARE's Core Group from country offices and headquarters as well as PVO and donor agency participation. The workshop will develop strategies to improve commodity management systems; for networking and information dissemination; and development of regional commodity management staff. PVO and donor agency participation will involve the sharing of ideas and identification of areas of mutual concern and possible future collaboration.

I. FFP/USDA Haiti Study
 Jim Thompson, Food for Peace

Haiti's PL 480 Title II and III program figures are found below. A trend is indicated; more food resources are going into Haiti, most notably in monetization activities.

PL 480 Titles II and III Haiti				
Organization	FY97 MT	FY97	FY98 MT	FY98
CARE	9,740	3,959.9	20,630	8,549.8
CRS	8,580	3,627.5	16,060	6,549.5
ADRA	9,790	4,110.8	10,340	3,840.8
WFP	2,510	891.2	2,310	896.2
			17,500*	5,575.0
sub-total Title II		\$12,635,000		\$25,640,800
Title III		\$10 million		\$10 million

*Represents an increase of 17,500 MT of wheat flour for Haiti's Title II Monetization program (jointly distributed by CARE, CRS and ADRA) in FY98.

Jim Thompson was a member of a USAID BHR/FFP/POD, USDA/Washington and USDA/Kansas City team that came to Haiti in April 1998 to investigate 1) reports of delays in container handling in the port of Port-au-Prince; 2) reports of delays on cargo arriving at US ports; 3) financial risk management issues unique to Haiti; 4) the feasibility of using a port in Gonaives; and 5) the timing of Title II and III monetizations. The full trip report appears as Attachment D.

The team conducted meetings with personnel from the USAID Mission, PVOs, shippers, agents, and Government of Haiti officials. The goals of the team were to assess operations at the port, assess the feasibility of using the port at Gonaives, review assertions by the ocean carrier Crowley American Transport of limited, if any, liability for cargo loss and damages due to alleged factors beyond its control, and to determine the extent of container movement delays and reasons for those delays.

Claims for cargo loss and damage as well as the financial management aspect of food aid shipments to Haiti have been historically problematic. Monetary recoveries for claims in past years have been low relative to experience in other countries. Ocean carriers have successfully raised legal defenses limiting their financial liability due to many factors including, but not limited to, civil unrest, military interventions, and trade embargoes.

The TDY team determined that factors such as civil unrest and security at the port were not as pressing or relevant as in prior years. Furthermore, such issues and local conditions were known to the carrier at the time of shipment. However, the team found that over the past several months many containers arriving at Port-au-Prince had not been forwarded to their intended destinations in a timely manner. The team first reviewed the overall cargo handling and clearance procedure at Port-au-Prince in an attempt to discover the rationale behind the delays. As of January 1, 1998, a change in GOH port customs clearance procedures stated that no cargo would be cleared unless all containers listed on each bill of lading were delivered to port.

Since the railroad merger between the Union Pacific and Southern Pacific rail lines, there have been significant delays in cargo arriving at US ports. Rail cars delivered cargo in quantities that exceeded the capacity of the ocean carrier's (Crowley) US mainland facility. Due to limited space and high rail car demurrage¹ costs, a decision was made by Crowley to move containerized cargo out of Lake Charles to Puerto Rico in an attempt to consolidate containers for shipment to Port-au-Prince. Crowley experienced coordination problems in Puerto Rico and, consequently, mixed consignments of cargo were shipped to Haiti without all containers as manifested on the bills of lading. Action has since been taken by the US rail industry to resolve delays and to clear congestion at the US ports. In light of changes in the Haitian Port Customs clearance procedures, Crowley now understands that steps must be taken to ensure that all containers are received as manifested for all future shipments. In addition, the team found that Title II monetization cargo had been given priority for clearance and movement over regular distribution commodities because contracts that were in place would have been voided if they arrived late. The team also assessed PVOs claims for losses and noted that overall losses since 1995 have been significantly reduced in comparison to prior years. Based on their visit the team compiled several recommendations:

- 1) Someone from the PVOs should continually visit the port.
- 2) The Mission and PVOs should use their bi-weekly forum to discuss procurement and shipping issues and coordinate the arrival of commodities.

¹ Excess time for loading or unloading a vessel, railroad car, truck, etc. beyond the time agreed upon, and the penalties and liabilities related by contract to such detention.

- 3) Use a single call forward for monetization commodities, with a PVO breakout listed for accounting purposes -- to ensure less paperwork to clear customs. An amendment to the Umbrella Agreement signed by the PVOs will be necessary to allow a lead PVO to process the call forward on behalf of the other PVOs. The amendment should identify a single PVO as the lead organization to work with the Title III Management Office.
- 4) TDY team suggests the possibility of having the Title III Management Office as the "Notify Party" on the bill of lading so that it will be responsible for the Title II monetization cargo when it arrives. If this is feasible, and the Mission concurs that Title II monetization commodities will not suffer delays at port, then the possibility of break bulk for Title II monetized wheat flour is encouraged.
- 5) BHR/FFP believes that the monetization program for Title II Cooperating Sponsors would best be conducted with bagged wheat flour for FY98. The Minoterie flour mill will not be ready for full operations until December 1998 and BHR/FFP believes that wheat flour is the only operational alternative for FY98 for Title II monetization. Call forwards for this commodity must be received by BHR/FFP/POD no later than August 4, 1998. A review of the operations of the Minoterie flour mill should be conducted for possible utilization in FY99.
- 6) BHR/FFP will discuss with OP/Trans and USDA on the use of Best Value procurement in shipping contracts, including greater use of break-bulk type shipments.
- 7) TDY team supports the Mission's efforts to investigate the possibilities of using other ports.
- 8) Given Haiti's problematic history with consideration to the unique factors impacting food aid shipments, and in light of the various potential adjustments to Title II and Title III programs, the TDY team sees a need for ongoing assessment and suggests a mechanism be considered for periodic follow up and review.

J. Supply Chain Analysis -- How to Determine the Cost Effectiveness

Dr. Gary Dicer, University of Tennessee

Food aid programs can learn how to develop more efficient, cost-effective commodity management practices. Furthermore, as PVOs become more involved in monetization issues, they will increasingly deal with commercial issues and can therefore benefit from commercial supply chain operations. By focusing on the concept of the total supply chain, organizations can identify relevant cost trade-offs, determine the optimum lowest total cost system, and encourage transparency to all parties. Under a CARE/University of Tennessee (UT) project, a supply chain cost analysis software program was developed to examine commercial supply chain applications for emergency food relief.

The basic supply chain, or pipeline, is made up of links between raw materials and the final product that is delivered to the consumer. In commodity management, the raw materials inventory link represents the farms; the work-in process inventory represents the silo; the finished goods inventory represents the plant location/mill as well as the field locations; the retail inventory refers to the yield at the distribution center; and the inventory to consumer represents the beneficiaries of the food aid. The supply chain, however, is only as good as its weakest link.

The CARE/UT project first reviewed the latest logistics technology, conducted benchmarking of commercial companies to review their best practices, and surveyed containerization to determine which methods would be most appropriate for food aid organizations. The review revealed several relevant logistics technologies (e.g., automatic data interchange hardware that would allow organizations to communicate; satellite tracking of vehicles, containers; barcoding of commodities). The benchmarking exercise found that while in most areas the food aid sector is not far behind the commercial food industry best practices, PVOs are far behind the commercial agricultural sector practices.

The main emphasis of the CARE/UT project was the development of a software to undertake supply chain cost analyses. A total supply chain focus allows an organization to 1) identify relevant cost trade-offs; 2) determine the optimum lowest total cost system; and 3) encourage transparency to all parties. With this program, a PVO can identify the total cost for a particular activity and what percentage that activity contributes to the total costs.

There are several recommendations that can create a more efficient commodity management system. It is important to form partnerships between the various links in the supply chain. The partnerships should be based on communication, transparency, and trust. In addition, PVOs should not underestimate the value of a shipment. While field staff tend to be more comfortable with the inventory available in storage, this inventory represents a cost in the supply chain. And finally, PVOs should eliminate non-value added activities. The heavy emphasis on protection, documentation, and reporting advocated by earlier speakers actually represents activities that cost money and require resources.

Muller Shipping Corporation P.L. 480 Title II Forwarding Procedures
Juan Matute, Muller Shipping Corporation

An overview of forwarding and data tracking services performed by Muller Shipping Corporation on behalf of CARE in the handling of P.L. 480 Title II packaged commodities was presented.

Informal Group Discussions by Subject

The participants selected from among the following small groups: shipping and freight (led by Juan Matute), USDA (Steve Searcy, Ben Myatt, Richard Chavez), Commodity Management (Walter Middleton and KM Adeeb), and USAID (Jim Thompson). These discussions were not captured for the proceedings.

III. Day 3 - Wednesday, July 1

Small Group Work on Recommendations with Regard to Pilot Activities

Food Security Resource Center
Jessica Graef, FAM

Overview of the FSRC

The FSRC is designed to serve as an information resource for PVO staff and other partners and researchers working on food security issues. The FSRC has close to 7,000 documents in the collection, including books, journals, working papers, videos, CD-ROMs, as well as a collection of proposals, reports, and evaluations from a wide range of food aid projects. The collection includes resources on several food security issues including famine relief, monitoring and evaluation, disaster management, early warning systems, nutrition, refugees, conflict resolution, emergency programs, monetization, and food aid legislation. Visitors can come to the FSRC in person, and we encourage information requests from field staff. The Technical Information Specialist (TIS), Jessica Graef, is on hand at FAM. The FSRC is not a lending library, however, copies of documents can be made for a charge.

A user can contact the TIS directly, review the FSRC article that appears in each issue of the Food Forum, or review the FSRC Bibliographic Database System (BDS) which allows a user to conduct searches of the FSRC system by title, author, subject keyword, geographic area, or date of publication. The database will soon be available on a CD-ROM or via access through the FAM website.

Role of the FSRC in the CSLR Project

The role of the FSRC in the CSLR project is to serve as a clearinghouse of resources on commodity management issues and in keeping information sharing active. The bibliography in Attachment J lists commodity loss, storage, and management resources that are available through the FSRC. There will also be a CSLRP web page on the FAM website. It is important for participants to provide the FSRC with suggestions of useful resources as well as copies of documents that the PVOs have produced on these topic areas so they can be shared with others.

Small Group Discussions

Four small groups were organized to further research the commodity storage and loss reduction issues identified at this workshop and to identify new issues.

- 1) storage (leader: Kevin Tobin, CRS/Baltimore)
- 2) partnership (leader: Jim Thompson, USAID/FFP)
- 3) ports (leader: Walter Franciscovich, CARE/Atlanta)
- 4) training and information dissemination (leader: Paige Harrigan, FAM)

The tasks of the small groups were to discuss:

- 1) possible recommendations; 2) challenges/obstacles; 3) associated costs related to the recommendations; 4) what internal capacity issues are present; 5) how to overcome the challenges and obstacles; 6) how the organization can push beyond these challenges; 7) key people/organizations that can be responsible/accountable for the recommendations; and 8) when these activities can be completed.

Small Group Recommendations are reported in the final section of the proceedings.

Section II
Johannesburg, South Africa
July 27-July 29, 1998

I. Day 1 - Monday, July 27

A. Summary of PVO Activities: General Activities and Conclusions

CARE Overview

Holly Solberg, CARE/Atlanta

The CARE CSLRP goals and activities, as identified in the Haiti presentation on page 2, were reiterated. The participating CARE Country Offices (COs) include Angola, Ethiopia, Guatemala, India, Honduras, and Peru.

CARE has identified the following CSLRP areas for consideration and discussion:

- continued studies of commodity packaging alternatives, particularly for vegetable oil
- recommendation to containerize particular shipments
- additional studies of container shipments to other ports in India
- continue to build relations/dialogue between NGOs, donors, vendors, government agencies, port authorities
- use of temporary/portable storage structures
- monitoring practices
- accountability
- storage time throughout in-country pipeline
- emphasis on accountability of commodity management practices
- focus on mission of our work -- what does this have to do with poor people?

CARE's on-going CSLRP activities include the following:

- improvement of existing storage facilities (Honduras, Guatemala, Peru)
- updating commodity management computer Generic Inventory Management Systems and CSR Database to improve tracking and reporting of commodity movement
- tracking of moisture content and alternative temporary storage (Honduras)
- moisture test results of wheat in Ethiopia.

CARE's future CSLRP activities will involve the conclusion of its pilot activities and the development of a final report and dissemination of findings. Based on these findings, CARE will make recommendations to COs, donors, and the NGO community. In addition, the CARE Commodity Management and Logistics Unit (CMLU) will address related commodity storage and loss reduction areas for improvement and partnering activities with NGO community.

CRS Overview

Kevin Tobin, CRS/Baltimore

The goal of the CRS CSLRP program is to decrease shipping and storage losses for food commodities and seeds. CRS country offices in Liberia, Senegal, Madagascar, Haiti, and Guatemala participated in the project. The project activities include the following:

- *Conduct a food aid loss study*. To help improve CRS' internal capacity to monitor and reduce losses, a study of CRS marine losses was conducted and internal reports were issued.
- *Conduct comparative field tests of food storage units*. CRS/Haiti and CRS/Guatemala conducted three comparative field trials of two types of storage units for grain. The Haiti office also conducted field trials on cocoons for storage of food aid commodities.
- *Study post-harvest grain storage and marketing practices promoted by CRS*. This study looked at CRS cereal bank community grain storage projects as well as other literature on this issue. The study found that a cereal bank is not a useful or efficient mechanism for community grain storage. A workshop was held to discuss the findings of this study and to take a critical look at cereal bank alternatives.
- *Assist USDA in testing new bags for blended commodities*. CRS assisted USDA in testing new bags for blended commodities by tracking a food aid shipment containing two new bag designs from Lake Charles, Louisiana to Madagascar. CRS took this opportunity to examine procedures and conditions at both the loading port in the US and the unloading port in Madagascar. Theft, damage, and improper storage in the US port and an inaccurate Bill of Lading issued by the shipping company raise new issues in need of attention.
- *Improve commodity management and reporting by field staff*. Two Loss Reduction Workshops were held for CRS food aid management staff in 21 countries. As a result of discussions at these workshops, CRS was able to revise and standardize the CSR/RSR forms to improve CRS' ability to analyze losses worldwide.
- *Test use of plastic tunnels and cocoons for field distribution*. CRS/Liberia tested plastic tunnels and cocoons for food distribution programs. A variety of successful uses were found for cocoons in the food aid program in Liberia. Two plastic tunnels (Rofi Tents), at \$7,000 each (excluding shipping) have been delivered and are currently being used in Liberia. The tents are light and portable, measuring 5 X 7 X 2.5 meters high; they are not designed to be hermetically sealed, but are better suited for daily in-out movement of commodities.
- *Improve CRS' internal capacity to monitor and reduce losses*. CRS is currently upgrading and improving its software program to better track commodity usage and losses. CRS is also currently compiling data for an inland loss study. Results will be used to plan future training workshops.
- *Compile and disseminate project findings*. The revised CSR/RSR forms have been shared with interested PVOs. The notes from the cereal bank workshop have been made available and a summary was recently published in the FAM's Food Forum newsletter. Other PVOs were included in a recent workshop in Madagascar on port procedures.
- *Other activities*. CRS has purchased plastic pallets for test use in five countries. These pallets are expected to be 1.) easily cleaned and disinfected; 2.) less likely to be stolen, because wooden pallets are more likely to be stolen because they can be used for construction and firewood; 3.) longer lasting; 4.) easily stacked for transport (fit together and lighter) or when not in use; and 5.) less likely to tear bags because no nails are used.

Discussion:

Participants spent some time discussing the plastic pallets. CRS has not yet conducted a comparison study of the costs of wooden vs. plastic pallets, but Kevin Tobin believes the initial cost of the plastic pallets will usually be higher. The important issues will be cost vs. durability/performance. CRS field offices have been asked to collect price information in their countries. One participant reiterated the idea that plastic pallets may prove to be less costly in the end because they are less likely to be stolen than wooden pallets. One participant expressed concern over the environmental impact of the plastic pallets, particularly with respect to the Initial Environmental Examination (IEE). One participant mentioned that, in contrast to the wooden pallets, no trees would be cut down to construct the plastic pallets.

Note: After the workshop FAM followed up with Paul des Rosiers, the Environmental Officer for USAID/BHR on the outstanding issue of whether or not the purchase of plastic pallets in Title II programming would be in conflict with the environmental objectives of the Bureau. In short, the use of plastic pallets will not be considered a red flag item when filling out environmental documentation.

Mr. des Rosiers responded that PVOs should feel free to purchase the pallets that best meet program needs. If plastic pallets are purchased, it is encouraged that the pallets are made of high density polyethylene (HDPE), which is in fact a more stable and non-corrosive material than poly-vinyl-chloride or polypropylene (HDPP). Pallets made of polyethylene, a cheaper source of plastic, are readily available on the marketplace. He could not foresee a situation where the purchase and/or use of plastic pallets would result in a Positive Determination or Negative Determination w/Conditions for the Cooperating Sponsor. The IEE will not require information on the materials used to make plastic pallets.

Glue is ineffective to repair broken polyethylene plastic pallets and blowtorches are often used. Because repair of plastic pallets requires a heat source, pallets made with a polyurethane interior should be avoided because they can release toxic fumes when burning.

There is still the outstanding matter of how to dispose of plastic pallets. There usually is not much use for waste HDPE or HDPP, so common sense should be used. If possible, the PVO should try to return unusable pallets/pieces to the seller. Otherwise, pieces should be disposed in an environmentally sound manner, like a sanitary landfill or other reasonable use. If you have any further questions Paul des Rosiers can be contacted on a case-by- case basis: J Paul E. des Rosiers, Environmental Officer, Bureau for Humanitarian Response, Tel: (202) 712 -1873, email: jdesrosiers@usaid.gov.

One participant asked about the durability of the Rofi Tents in high winds or storms. CRS did not have any specific data on this issue, but the tents are believed to be durable - ropes and stakes are included to secure the tent when necessary and the eyelets are reinforced. Because the tents are not rigid and do not have sharp corners, the wind should pass more easily over the structure.

A field staff person from Ethiopia mentioned that his organization had some trouble getting the local Mission to approve their revised CSR. As a result, the organization currently must submit one form to headquarters and another form to USAID. In response, it was suggested that the headquarters office raise this issue with the Food for Peace office in Washington, D.C. to see if this problem might be rectified.

World Vision Relief and Development (WVRD) Overview

Leland Brenneman, WVRD/Washington, D.C. for Jules-Lynn Frost, WVRD/Washington, D.C.

WVRD's grant is focused on the following specific activities:

- technical and economic comparisons of alternative storage systems involving silos, tunnels, and hermetically sealed cocoons for storage of food aid commodities and seeds for later use
- technical and economic comparison tests with emphasis on effectiveness and practicality of alternative storage systems involving silos, tunnels, and hermetically sealed cocoons in storage for surplus grain production under typically rural conditions ranging from lowlands with high humidity and high temperature, to high altitudes with lower temperatures and humidity
- sharing and dissemination of information regarding best practices for commodity storage and loss reduction.

The program also identified the following unforeseen benefits:

- linked the use of improved technologies with Title II programs in Angola, Mozambique, and Sierra Leone
- increased awareness of the importance of commodity loss reduction technologies and practices (conducting of WV workshops in Nairobi and Johannesburg; printing of loss reduction materials for use in warehouses by WV programs; sharing of WV/USAID ISG-funded commodity training video in CSLRP forums)
- developed methodology for comparing grain storage techniques – Kansas State University tool
- linked technical sectors within WV programs (agriculture and food aid management) to consider overlaps in loss reduction efforts
- brought WV relief / transition countries together to exchange ideas related to loss reduction (via workshops sponsored by the CSLRP).

There were logistical problems associated with the procurement of the GrainPro technology and purchase of equipment was delayed. Furthermore, GrainPro could not supply the 10 MT tunnels as requested. In addition, Mozambique experienced significant problems with the consignment. There was some miscommunication between WV and GrainPro, attributable to inadequate shipping procedures of GrainPro. This delay resulted in WV Mozambique not being a viable option for testing food commodity storage as planned. As WV shifted into monetization programming, distribution of relief commodities (maize) was completed, and the opportunity to test commodity storage was diminished.

Angola experienced staffing problems because of GOA's visa issuance policy which severely affected WV's ability to hire and place competent staff in key positions. Furthermore, WV was unable to find an appropriate use for the GrainPro silo in relief or transitional settings. Sierra Leone faced the May 1997 coup and continued instability; WV/Sierra Leone staff were evacuated from the country to a base of operation in Conakry, Guinea and have now returned to Freetown. Sudan also evacuated expatriate staff from Yambio City during the first year of the grant. Sudan is now experiencing a humanitarian emergency which draws critical staff away from loss reduction testing.

WVSL and Mozambique staff also encountered problems with the cocoon zipper because the alignment was difficult to master. GrainPro has now developed a new one piece cocoon zipper in an attempt to resolve this issue. Mozambique and Sierra Leone have experienced rat damage because the cocoons were not filled to capacity and had security issues. In Mozambique, security guards have been hired to protect the cocoons.

B. Panel Discussion: US Port; In-transit at sea; Port storage; and Transfer to distribution centers
Presentations focusing on particular segments of the food aid pipeline were clustered together into a panel discussion format. This first panel discussion highlights the transfer of commodities from the US port to in-country distribution centers.

Steve Searcy, USDA/KCMO

Please refer to Mr. Searcy's presentation in the Haiti section on page 9.

Joe Gerstle, CRS

Recognizing that adequate data was not available to analyze commodity losses, CRS has taken two major steps to compile data that will accurately reflect food aid losses. About six years ago, CRS developed a computerized system for tracking the movement of commodities from the suppliers in the US to delivery to the country program. In addition, CRS revised the CSR (Commodity Status Report)/RSR (Recipient Status Report) last year to standardize the information and make it easier to compile and analyze.

Port/Vessel Losses

CRS' computerized tracking system provided data for the 5-year period from January 1, 1993 to December 31, 1997. Before CRS took possession of the commodities in the port of discharge, there were losses of 440,000 units that were listed on the Bill of Lading but were not received. Of these, 221,000 units were short-landed, 80,000 units were declared unfit for human consumption at the port of discharge, and 145,000 units were lost or empty due to spillage. The value of these 'marine losses' in five years was over \$7 million. These losses affect our programs since the tonnage available for distribution is reduced, the lost commodities are not replaced, and claims must be filed. Claims not recovered are a financial loss for the US taxpayers.

Of these marine or vessel losses, 32% of the short-landed commodities and 50% of the unfit commodities were shipped from the Port of Lake Charles, Louisiana. CRS believed that a significant portion of the losses listed as vessel losses are actually US port losses. CRS conducted a survey of four commodities shipped from the Port of Lake Charles to Madagascar. It should be noted that there is also a significant difference in the performance of shipping companies. Three ocean carriers lost 41%, 13%, and 12% of the commodities they carried, while six ocean carriers lost between 2% and 4% of the commodities they carried.

From this study, CRS learned the following:

- 1) **The mill supplied more cargo than was ordered for two of the four commodities: an additional 1.4 MT of rice and 1.44 MT of CSB was received (this is very rare).**
- 2) **Theft in the port warehouse: 20 cases of oil were stolen. Other commodities were taken, but the theft could not be documented.**
- 3) **Major rodent damage in the port warehouse to both CSB and rice documented.**
- 4) **Re-stitching of rice bags without reconstitution: bags were re-stitched in the port warehouse without reconstituting the bags to their original 50 kg and were loaded aboard the vessel as sound bags.**
- 5) **Inaccurate Bill of Lading (BL) for oil and for torn bags: according to the survey, 5,394 boxes of oil were recorded as loaded onto the vessel at Lake Charles. 29 cases of oil listed on the BL were left in the port as they were badly damaged. The BL, however, recorded 5,423 boxes as loaded (a difference of 29). The ex-tackle survey found that 5,379 boxes were received in good order (15 less than were loaded), while 6.3 boxes were empty or damaged. Many of the re-stitched rice bags had less than half the original weight but this was not noted on the BL.**

CSR (Commodity Status Report)/RSR (Recipient Status Report)

In order to improve the tracking system for in-country losses, CRS has revised the CSR/RSR to more accurately reflect losses. CRS is still compiling the data and it is hoped that more data will be available by the end of September. During two workshops held in Kenya and Benin as part of the CSLRP, these reports were revised to accurately reflect all inland losses from the time commodities are received until they are distributed to the recipients. They have also been redesigned as a tool to evaluate country program performance.

Based on these findings, CRS raises the following questions:

- 1) Who is responsible to assure that commodities loaded aboard vessels are free from contamination?
- 2) Who is responsible to assure that the vessel BL accurately lists the amount loaded aboard vessel and that only sound bags are loaded?
- 3) Who tracks losses by port of export and vessel and takes corrective action, if required, to assure that commodities are stored, loaded and shipped in a manner that will keep losses to a minimum?
- 4) What role should the PVOs play in the US port operation?

The PVOs take ownership for the commodities when they arrive at the US port, however they rely on shipping companies to deliver commodities to the foreign port. PVOs must play an active role in reporting and disseminating information on problems encountered. Many losses at the port can be prevented or mitigated if the PVO representative is knowledgeable and proactive.

CRS makes the following recommendations:

- The PVOs should request a meeting to discuss the above questions.
- The PVOs should write a letter to USDA/Washington to express an interest in being involved in the redrafting of the guidelines for the Vessel Loading Observation Procedure (VLOP) to address some of the problems mentioned.
- Loading surveys should be conducted at US ports on a random basis.
- PVOs should form a working group to analyze marine losses to come up with recommendations for reducing losses. The results of the analysis should be reported to USDA and USAID.
- PVOs should join forces and produce two Port Operations Manuals (one for US ports and one for foreign ports). These manuals will outline procedures to be followed when shipping and receiving commodities. The manuals should include step-by-step procedures that will be followed to reduce losses to a minimum.
- The PVO community, USDA and USAID should work diligently to continue the spirit of partnership that has been prevalent during this loss reduction project.
- Interested parties should meet to review and discuss the systems/controls in place to prevent commodity losses at the departure ports - perhaps at the USDA-sponsored October conference in Kansas City.
- USDA should expand the VLOP beyond blended commodities to include all commodities.

Walter Franciscovich, CARE/Atlanta

Please refer to Mr. Franciscovich's presentation in the Haiti section on page 2.

SL Srinivas, CARE/India

A review of CARE India's improvements to the transit and storage aspect of the food commodity pipeline is presented.

Transportation from US Ports

The present system of using conventional lash barges has been found to be too time-consuming and cost-ineffective. CARE India requested that USAID/I transport cargo using containers. Two test shipments were received and unloaded in India, and considerable time and money was saved. Specifically, with containers:

- \$73 USD per metric ton of CSB and \$21 USD per metric ton of oil were saved
- 24% less time was taken between forwarding and clearing
- there were no oil shipment losses and only .28% CSB losses (versus 1% in lash barge shipments)

CARE India has currently entered into a dialogue with USAID/I to look at scaling up container shipments to India and bearing the inland haulage charges. Advantages of container shipments include:

- reduces handling from 10 points for lash barge shipments down to 1 or 2 for containers
- avoids sea water contamination of commodities due to over-water positioning of cargo during voyage
- reduction in pipeline time
- easier to monitor cargo as it moves directly in program states

- reduces freight rates (test shipments reveal that the freight cost between US ports and Calcutta was much higher than between the US and ICD Delhi). Inland haulage costs from Calcutta to Delhi were avoided with container shipments
- works to satisfy USAID Regulation 11, Section 211.4c (3iiD) which states that “the US will finance the transfer of commodities at the lower combination of inland and ocean transportation costs—where a substantial savings in cost or time can be effected....”

Use of Pre-slung arrangement—CARE India has begun using pre-slinging to clear the cargo and has achieved considerable savings in time.

Storage and Transportation to Distribution sites

These studies revealed that the clearing agents were not following proper storage practices. In response, CARE port officers have been instructed to periodically visit warehouses to ensure that proper storage practices are followed; as a result, considerable improvements have been noticed. Additionally, port officers have been instructed to review contract documents between the state governments, clearing agents and transport contractors to recommend changes that would allow more rapid movement of the cargo (e.g. reducing free time allowed, imposing a time limit to complete transportation on a shipment load basis). CARE officers were also asked to review the performance of the transport contractors and to recommend action; as a result, considerable improvements in the transportation of food commodities were recognized.

Call Forward Process

Currently, the request for food commodities is placed 8 months before the actual date of receipt of the food at the distribution centers. This long lead time needs to be reduced. In India, an inter-institutional task force on food program monitoring (with representatives from USAID/I, Muller Shipping, CARE USA, CARE India, CRS, and WFP) has been developed to explore all aspects of cargo movement from US ports to distribution centers. This task force will critically review all existing systems, procedures, reporting requirements and inventory forms in use and make recommendations to USAID/I on what improvements can be made for the management of food resources.

**C. Minimum Standards for Food Aid: The Sphere Project
Developing Standards for NGO Humanitarian Response
Harlan Hale, CARE/Atlanta**

The Red Cross Movements and NGOs recently developed a 10-point Code of Conduct for NGOs. The Sphere Project was formed to take this Code of Conduct concept a step further by developing common standards of quality for specific sectors. Made up of InterAction's Disaster Response Committee and the Steering Committee for Humanitarian Response (SCHR), the Sphere project is NGO inspired and lead. It is a multi-NGO participatory consultative process that is multi-donor supported. The project is designed to set commonly agreed expectations for humanitarian response.

The standards that will be developed are intended as an aid to new NGOs and new staff. The standards will guide NGOs during the initial/acute period occurring immediately after a disaster. The standards will be useful in all types of emergencies and disasters. The following sectors will be covered by the standards: nutrition, health, water/sanitation, and shelter. Some sectors are not covered, but the feeling was that some sectors are too new to generate any best practices concepts.

The Standards for Food Aid include the following:

Analysis/Assessment: Before any programming decisions are made, there is a demonstrated understanding of the basic conditions that create the risk of food insecurity.

Analysis/M&E: The performance and effectiveness of the food aid program and changes in context are monitored and evaluated.

Participation: Recipients of food aid have the opportunity to participate in the design, management, and monitoring of the program.

Coordination: Agencies, local authorities, the affected population and donors coordinate their efforts in the design and implementation of the food aid program.

Requirements: The food basket and rations are designed to bridge the gap between the WHO recommended population-based requirement and the affected population's own food sources.

Resource Management: Food commodities and program funds are managed, tracked, and accounted for using a transparent system which can be audited.

Logistics: Agencies have the necessary organizational and technical capacity to manage the procurement, receipt, transport, storage, and distribution of food commodities efficiently and effectively.

Distribution: Food distribution is fair and equitable and is based on local conditions. Recipients are informed of their ration entitlement and the rationale for the levels provided.

Capacity: Food aid programs are managed and run by competent staff.

Training/Transfer: Local capacity and skills are used and enhanced by humanitarian food programs.

A draft of the complete work is currently available on the World Wide Web at the following URL: <http://www.ifrc.org/pubs/sphere>. The final publication and launch date is scheduled for October 1998, prior to the opening of the next General Assembly in New York, at which point statements of commitment will be signed. Phase II of the project will focus on dissemination and application of the Standards.

D. Panel Discussion: Food Aid Storage at Distribution Centers

SL Srinivas, CARE/India

Two intensive CSLRP studies revealed that transportation of food commodities from the block warehouses to the distribution centers, or Anganwadis, were less than optimal. Specifically:

- in the majority of cases, the food commodities in India were being stored at the residences of the Anganwadi worker instead of at the distribution centers
- storage areas were generally dark and unsanitary and dunnage² is rarely provided, and proper storage practices were ignored
- lack of measuring devices caused rations to be below standard
- food was distributed to all people present, causing dilution of rations
- at some centers, rations were siphoned off and sold.

CARE India has called for regular supervision by block officials who manage the program, and for active participation and supportive supervision by the community members. CARE field officers have been mandated to visit at least 3% of the centers in their area to observe feeding, to take head counts and to attend monthly meetings of the Anganwadi Workers to provide instruction and to help build their capacity to manage the programs. Furthermore, each Center has been asked to distribute weekly rations to pregnant and lactating women and to children under two. The mothers will also receive health and nutrition education with their rations, and the children will be weighed monthly; the Anganwadi workers

² Materials placed adjacent to or beneath stacked goods to secure them in place or to allow for ventilation during transport or storage.

have been trained to mark and monitor these growth charts. Finally, the Anganwadi are encouraged to sell the empty containers to raise money for the purchase of dunnage and measuring devices.

Under the CSLRP, CARE India organized the following studies:

- Intensive studies of the CARE assisted ICDS programs in Bihar and West Bengal
- Assessed CARE's experience in Uttar Pradesh in a partly funded a study on ready-to-eat food
- A comprehensive study of all losses reported during US FY 96 & 97

Major findings

The following issues need improvement:

- transportation of food commodities in terms of time duration, lifting schedules etc., from the port to districts, blocks and to the Anganwadis
- storage practices at all levels
- speed of release of funds from the State governments to C&F Agents, Storage Agents, Transport Contractors as well as Blocks, and ICDS functionaries
- record keeping at Anganwadis/block levels
- the capacity of the ICDS functionaries in the proper running the program
- reduction of diversion of food commodities
- community support and participatory supervision of the program to bring an element of "social audit" by the community members
- positioning the supervisors and ICDS functionaries at all program levels
- transportation of food commodities using containers and multi-modal transportation that would result in considerable cost, losses and time

Based on these findings, many recommendations were made to the Governments and several follow up actions taken.

- In Bihar, a state level committee has been formed to review the recommendations made in the report and to take appropriate corrective actions.
- District/Block Officials have been instructed to increase their visits to the ICDS Centers, meet with the community members and ensure active participation in the successful running of the program.
- Vigorous follow up on active involvement of the officials in moving commodities from port to blocks/ICDS Centers is taking place resulting in improved commodities movement in Bihar.
- CARE Field Officers are now mandated to attend the monthly meetings of the ICDS program reviews at District level and guide government functionaries as to how to improve the program monitoring and in proper maintenance of records.
- A new Transport Contractor has been identified to move food commodities from port to the blocks has been finalized in the state of Bihar.
- Test Container shipments of CSB & Oil were received at New Delhi for the Uttar Pradesh program and considerable reduction in costs, losses and time were observed.
- A clear push to the THR (Take Home Ration) to improve participation has started showing results. Demand for food has increased considerably.
- A renewed emphasis on proper record maintenance and submission of monthly reports and consolidation of these reports has been made.
- Copy of the Bihar Study report was submitted to all the CARE State offices and staff were asked to review the report and take appropriate actions to implement the recommendations where applicable.

Sam Boakai, CRS/Liberia

CRS has been engaged in the distribution of relief food commodities to residents of Liberia since the beginning of the Liberian Civil War in 1990. During this period, CRS was faced with the problem of finding storage facilities at distribution points. In most cases residential buildings were used where available, but losses were sustained due to rats/rodents, water from a leaking roof, and spillage on the earthen floor. Sometimes no buildings were available for storage, and truck distributions were undertaken which led to high costs for fuel and truck rental, and the depreciation of CRS trucks. The GrainPro cocoon significantly reduced these problems.

CRS/Liberia found the cocoon to be useful for the following:

1) temporary warehousing

In mid-July 1997, a 20 MT cocoon was set-up in Doe's Clan, District #1, Grand Bassa County. 275 (50kg) bags of bulgur and 125 (50kg) bags of lentils were placed in this cocoon for temporary storage for three days. During this period, several Commodity Program Unit (CPU) staff successfully distributed the cocoon-stored commodity to over 900 beneficiaries. When CRS/Greenville ran out of space in the warehouses, a 50 MT cocoon was set up for temporary storage of approximately 49 MT of bulgur wheat in early 1998.

2) killing insects in infested commodities

CRS/Liberia's Buchanan office set up a 5 MT cocoon in one of its warehouses with about 150 (25kg) bags of CSB that were slightly infested. After two months, the CSB was taken from the cocoon and found to be fit for human consumption. ACF/Buchanan also set-up a 5 MT cocoon in a warehouse on a trial basis. Several bags of slightly infested bulgur, lentils, and CSB were placed in the cocoon and after six weeks, the commodities were found to be fit for human consumption.

In late 1997, CRS/Buchanan observed that pinto beans were heavily infested due to delays in distribution as a result of the April 6, 1996 crisis. The infested pinto beans were put into several cocoons at the CRS/Buchanan warehouses for possible control; upon opening the cocoon 3 months later, all insects were dead. The commodity could not be used for human consumption, however, because the insects had perforated the beans, but the commodity was fit for animal consumption – this would not have been the case had the cocoon not been used. After four months outside the cocoons, the commodity has not become re-infested, leading CRS/Liberia to believe that even the insect eggs were killed.

3) preventing damage from insects and rodents

Many CRS warehouses are located in an area that is highly infested with rats, but no rat damage to the cocoons has yet been observed. CRS/Liberia's experience with cocoons has been that commodities inside cocoons are not vulnerable to insect and/or rodent infestation.

4) reducing logistical problems and transportation costs

With the use of the cocoon, commodities can be pre-positioned with fewer trucks compared to distributions off the back of trucks. The staff can arrive and distribute the pre-positioned food without the frequent mechanical delays or excess rain problems often encountered on interior roads.

5) preventing water damage in damaged warehouses

With the high wind and heavy rains of Liberia, sudden leaks in the warehouses are not uncommon. Cocoons provide a quick and effective protection against the wet conditions.

The advantages of a cocoon are as follows:

•reduces or prevents losses due to moisture, insects, micro-organisms, fungi, rodents, and birds; safely stores any dry agriculture commodity at or below the proper moisture content level •controls insects without the use of chemicals •maintains efficiency in a wide range of conditions, including high precipitation and high wind conditions •suitable for outdoors in direct sun light, under trees, or inside sheds and buildings •can be suitably set-up on level ground with pad • easy to set-up and unpack without the use of much labor • serves as a temporary storage facility in absence of a warehouse.

The disadvantages of a cocoon are as follows:

• vulnerable to theft, especially if set-up outdoors • easily punctured, thereby reducing its hermetic condition • proper management, including frequent checking, is required to ensure the best outcome.

Conclusions

Cocoons reduce the costs of temporary warehousing and losses due to moisture, insects, and rodents--this technology can be very efficient in a temporary food storage operation like that of emergency relief distributions. Institutions involved in emergency relief operations should consider using this cocoon technology.

Rick Fitzpatrick, WV/Sierra Leone

Mohammed Sherriff, WV Warehouse Manager/Conakry

The key goal of CSLRP for World Vision Sierra Leone was to "test the suitability of hermetically sealed technology to safely store commodities in tropical countries where mold, insects and rodents are sources of significant losses" (taken from the January 31, 1997 grain storage/loss consultancy report of Beth Stanford, OFDA).

WVSL compared 5 metric tons of lentils stored according to standard procedure versus the same amount of lentils stored in a hermetically sealed cocoon. Six samples were taken from each lot before the commodities entered the storage units and after the CSLRP unit was opened. Tests undertaken were weight per bag, moisture content, physical appearance of commodities and insect count.

WVSL planned to undertake 3 levels of analysis (cost analysis, logistical analysis* and grain storage quality analysis*) and eleven aspects of comparison (insect/rodent resistance*; moisture resistance*; durability*; structure's wind resistance*; portability*; repairability*; fire resistance; in/out ease*; speed of installation/use*; security*; and cost per metric ton).

*Because of the instability and insecurity of the area, only the items with the asterisks were actually accomplished.

Results and Findings:

- Hermetically sealed PVC units served to better protect USAID/FFP commodities --WVSL Evidence:
 - A) Bo, Sierra Leone, after one month of storage:
 - Rodent waste/crickets/2 bags of rodent damage all on comparison lot
 - CSLRP lot was OK
 - B) Kono, Sierra Leone
 - insect dropping seen on and around the comparison lot
 - CSLRP lot was fine
 - C) Conakry, Guinea, after one month
 - lizard holes in bags on comparison lot
 - weevil corpses and insect larvae seen extensively on the zipper of the CSLRP unit lot

- Zipper problems with the cocoons at all three locations (Bo, Kono, and Conakry). If not completely sealed, the cocoons did not perform.
- Silos were not set up due to looted parts. Cocoons at Bo and Kono were also looted.
- The durability of CSLRP units is questionable in light of the scale of rat attacks. Cocoons were easily slashed. In Bo, the rat holes were up to a meter wide, and at Kono, there was also extensive rat damage. (This took place in insecure Junta period of post May 25, 1997.)
- Repairability—experience with the local glue for patching vs. evostic factory glue.
 - difficult to patch units properly
 - needed a lot of glue and had to order from the US because local glue did not work
 - cost of glue and shipping were high
- Moisture contact—drop in moisture levels in CSLRP unit while the moisture levels in the comparison increased
- Weight per bag change—no drop in the CSLRP unit, but about 1/2 kg drop per bag in the comparison lot
- Accessibility—the cocoon took several hours to properly shut; needed to reposition commodities to get the right fit inside the cocoon; needed a 4 person team to set up a 5 MT cocoon

Pros and Cons of cocoon:

PRO:•insect/rodent resistant •moisture resistant •wind resistant •portable

CON:•durability • repairability • in/out ease • speed of installation/use • security •cost per metric ton

Next Steps for usage of Cocoons:

- Agricultural recovery program—post harvest storage
- Temporary (days) storage of commodities for reconstitution
- Provide storage inside remote local store facilities to ensure protection of commodities (dilemma of community led development)

Usage Continuum:

....Relief (war)....Resettlement....Rehabilitation....Rebuilding Commodities...Self-sufficiency...Community Development....Development....Peace...

The best usage for the cocoons seems to be on the latter half of the continuum, but the cost may be prohibitive.

Walter Middleton for WV/Angola

WV/Angola obtained cocoon test results similar to those of WVSL. See Attachment E for results from the food aid and post harvest storage tests. Test results showed little total difference in overall performance between cocoons and conventional warehousing over a two month period. Any significant difference could often be attributed to error (for instance, a cocoon was improperly shut or moisture meter calibration was off). It should be noted, however, that the tests are ongoing and different results may emerge. Based on these tests, WV developed the following conclusions:

- 1) When used properly the cocoons performed per expectations as described in GrainPro literature — and in many instances performed better than traditional alternatives.
- 2) Optimal results often were compromised due to constraints related to characteristics of the GrainPro units: •hermetic seal (zipper problems) • rodent damage (in storage, when not full, when high density of rodents) • set-up complexity of large units
- 3) Disadvantages for use in emergency situations: • not an in/out technology • requirement of exact tonnages • security (value of asset, easy access) • if there is a "problem" it might go undetected

- 4) Advantages for use in some situations: • smaller cocoons useful for temporary storage in outlying areas/villages (no hermetic advantage) • able to segregate commodities within large warehouse (damaged commodities) • provides longer term storage when warehousing is scarce.
- 5) Financial Analysis: Hard to analyze in an emergency situation due to many variables such as security, availability of conventional warehousing, etc. (post-harvest storage is a different matter).

II. Day 2 - Tuesday, July 28

E. Panel Discussion: Post-Harvest Storage

Verona Parkinson, WV/Mozambique

As the WV/Mozambique program transforms from an emergency relief program to a development program, WV/Mozambique compared traditional local storage methods with hermetically sealed cocoons. The trial was conducted over a 60 day period to demonstrate to farmers that the use of improved storage technology can reduce post-harvest storage losses and increase the market value of their crops.

The objectives of the trial were as follows:

- 1) test hermetic storage in the control of storage pests and molds
- 2) test the effect on seed viability over time (to enable farmers to develop own seeds)
- 3) compare the cost of the two storage systems.

Surveys on moisture content and insect damage were conducted in a wide range of areas. See Attachment F for data results.

Moisture content

In the Zambezia Province the water table was very high, and most of the bags on the periphery of the cocoon were water damaged. As a result of high humidity, heat was generated within the storage environment; fungal infection developed and reduced grain quality in bags on the periphery. Bags stacked in the middle were not affected and good seed quality was maintained. Moisture content was significantly low in the traditional storage due to continuous drying as a result of heat from the application of smoke.

Insect damage

There were highly significant differences in damaged grain and insect count between the hermetically stored grain and the control under traditional storage. While insect population increased in both storage systems over the storage period, there were no living insects in one cocoon and a very low count of live insects in the others. As a result, the percentage of damaged grain was very low. The high level of live insects in the traditional storage control indicated that smoke had no effect in controlling the insect population. An apparent increase in the insect population in this control group indicated that the grain was already infested in the field prior to testing. In some samples of the control, 100% insect damaged grain was recorded.

Weight loss

There was no significant difference in grain weight loss between the initial loading and storage period in the hermetic system. Grain weight in the traditional storage at the end of the trial was significantly lower than compared to grain weight at the beginning. This was due to a combination of insect damage and reduced moisture content as a result of smoking.

Seed germination

A study was conducted at one location to determine the application of prolonged storage of germplasm under hermetic conditions. The study showed no significant difference in seed germination over the storage period of 60 days. Nor was there a significance in the interaction of storage period and storage system. This study is continuing, as the period of investigation was not long enough to generate meaningful results.

It is difficult to compare the cost of a cocoon with local storage because there is no investment cost in local storage structures. Mud, wood, and other required storage materials are available locally. WV/Mozambique therefore attempted to place a money value on the labor required for local construction, but the assigned monetary value is too low for comparison.

The cocoons are expected to deliver financial benefits to the farmers. An analysis found that a 5 MT cocoon must have a life span of three years for farmers to break even. This analysis was based only on the initial cost of the cocoon and assumed that farmers would pay cash, rather than by credit at a 20% interest rate. The opportunity cost of the use of the money is a variable that can affect profitability, and this was not taken into consideration in the analysis.

The cocoons pose the following constraints/disadvantages: • high investment cost • tying down of capital which could result in financial loss • structural difficulties in closing the cocoons • rodents can penetrate folds in the cocoon, thereby destroying the hermetic seal and allowing insects to gain entry into the cocoon.

WV/Mozambique believes that cocoons can be a useful technology in Africa, particularly as a means of alleviating labor constraints. It is an environmentally-friendly technology, and can preserve grain quality to result in increased income for farming households.

As the storage period for these studies was short, further research is needed before recommendations can be made to farmers concerning the use of cocoons. Further research is needed on the following issues:

- length of time grain can be stored while still maintaining quality for sale and consumption
- resistance to moisture migration • structural difficulties in closing the bags • evaluation of weight loss due to actual insect damage as opposed to reduction in moisture content • appropriate training of farmers
- resistance to penetration by rodents.

Kevin Tobin, CRS/Baltimore

An account of CRS storage tests in Guatemala and Haiti appears in the Haiti section on page 8.

CRS has some recommendations/instructions on the use of cocoons. If cocoons are managed properly, they will work.

- Lay the cocoons in the sun for one or two hours when first opening to get rid of the folds.
- Line up the top and bottom zippers as closely as possible-- the arrows on the cocoon are not sufficient for alignment. There are small manufacturing marks above and below the zippers that can aid in the process.
- Have an experienced warehouse porter help to fill the cocoon - proper stacking of the bags is important.
- Keep the straps tight.
- Check the cocoon frequently to make sure the seal is intact.

Discussion:

One participant asked how long the grain would be stored in the metal silos in Guatemala. The answer was easily 6 months to a year if the grain has the proper moisture content. As a follow-up question, the participant expressed some concern about hot spots that can lead to spoilage in the grain. In response, it was pointed out that the silos generally do not stay in the sun, so there is not a great deal of daily temperature fluctuation. Also the volume of grain in these silos is much less than with large grain bins that require aeration fans. But this issue was flagged as one that could justify further research.

Richard Obwaya, WV/Sudan

World Vision/Sudan has conducted a program to encourage food production by Yambio farmers in southern Sudan. The strategy includes the bartering of surplus grain for unobtainable relief commodities and support to build farmers' cooperatives.

In the first year of operation, 1993-1994, the program was very small and experimental; only 15 MT of maize was purchased. As farmers' interest in the program strengthened and agriculture production increased, food storage has become an issue. Most traditional storage facilities in the area are unsanitary and have a high theft risk. Temporary structures have worked very well in the current emergency response in Sudan. Another storage facility option has been evacuated residential homes/shops. In Yambio where the grain purchase program is carried out, modern warehouses that can hold over 600 MTs are available.

Given the insecurity in Sudan, the WV/Sudan cocoon testing program does not have a postharvest storage focus. Cocoons have been used for short- and long-term storage for the distribution of food to the needy areas. The following tests were conducted on the cocoons:

- 1) weight per bag
- 2) moisture content
- 3) insect population count
- 4) mold and damaged kernels.

Delivery Delays Caused by Administrative and Programmatic Issues

Richard Chavez, USDA

Please refer to the presentation in the Haiti section on page 10.

F. Packaging Issues—Enhanced Packaging for Blended and Fortified Commodities: A Cooperative Study by Stone and USDA

Lee Simmons, Stone Container Corporation

Stone Container Corporation, based in Chicago, handles the USDA/DACO grain and dairy packaging. In 1979, the USDA adopted a performance based packaging, a major shift which coincided with a shift in the industry. Changes in the early 1980's included a reduction of the 5-ply paper bag to 3-ply to reduce cost, removal of the insect resistant treated paper (which was found to be a carcinogen), and introduction of polypropylene as the inner liner based on its performance and cost. In 1989, a heat sealed inner poly liner was included to resist mold, infestation, and oil infiltration to improve overall performance.

In 1996, USAID/Food for Peace and WFP complained about the quality of US humanitarian assistance packaging. The USDA set up field observations in India, Africa, Peru, and Haiti, and there were government and industry discussion groups and presentations. The USDA Packaging Specialist, in cooperation with US millers and packaging manufacturers arranged a field observation trip to Tanzania, including the port of Dar es Salaam, and the inland towns of Isak, Ngara, and Kigoma, which were

distribution points for packaged commodities headed for Zaire, Burundi, and the Benaco refugee camps. After observing horrible handling procedures and infested storage facilities and learning of catastrophic 30% losses of some shipments, the USDA contracted for laboratory and field test shipments of multiwall paper bags for CSB (in cooperation with Michigan State University). Machine made paper bag samples of five different constructions from packaging industry recommendations were tested; the Valeron bag, or "superbag", suitable for transporting level two toxic chemicals, performed the best but is too expensive for commodity transport. Additionally, approximately 33,000 test and control paper bags were filled in Crete Nebraska, loaded at Lake Charles, Louisiana, and headed for Tamatave, Madagascar. (The Madagascar port unloading results are provided in cooperation with CSLRP and Catholic Relief Services; P.L. 480 Title II and III appropriations and call forwards were provided by USDA.)

After the Tanzania observation, USDA also specified new vegetable oil containers. Previously, vegetable oil containers were square or oblong cans with a non-standard design. They were plagued with inconsistent double seams, leaking corners, poor stacking performance, and high costs; this led to leaking cans that contaminated mixed loads in vessel and resulted in significant losses and "vegetable soup" at the bottom of ships. The cans were redesigned in a standardized cylindrical design, with higher load bearing strength, twice the stacking performance and ribs that reduce dents. The re-design has resulted in \$4,000,000 savings per year.

Overall, test bags performed significantly better than the STD 3 ply control bags. On average, there was 1/3 less breakage with enhanced constructions. Four options were presented based on the test results:

- 1) no change to the present bag specification; no program cost increase
- 2) change the paper bag specification for all programs in all countries (from 3-ply to either 5-ply or to 3-ply with enhanced polypropylene); cost will be about \$3 million, with improved quality and reduced damage
- 3) change paper bag specification for only Africa and Madagascar; cost about \$1.5 million, with improved quality, reduced damage, but with KCCO procurement issues
- 4) Allow PVOs the option--the customer decides what is needed; improved quality and reduced damage, but there are KCCO procurement issues

Conclusions

- 25 kg paper bags--enhanced packaging for Africa/Madagascar
- vegetable oil containers have been improved and damage is down, but continue work on plastic vegetable oil containers (there are areas where plastic is a problem)
- recommend the use of 20 liter pails for vegetable oil

Discussion:

- There was a question as to whether any change in bag construction would make a difference in light of poor handling practices. Packaging should be designed for worst case scenario (currently they are designed for best case); handlers can not be expected to baby the packages.
- As to what PVOs can do to help the USDA select the appropriate bags, Mr. Simmons suggested drafting a joint letter to Ben Myatt stating PVO preference for enhanced packaging.
- Do the PVOs risk shooting themselves in the foot in terms of food funding when they request more expensive packaging? Mr. Simmons did not have the specifics on food programs, but indicated that current 5-ply bags were \$.50, 3-ply with enhanced PP were \$.65 and the Superbag was \$.90. The largest cost to the program is freight, and the cost will continue to rise. More enhanced packaging will make customers--the PVOs, and ultimately the beneficiaries-- happier, as significant losses to taxpayers decrease because of damaged packaging

- It is not that simple to ship in bulk and then to package abroad--there are Congressional and US job issues
- good packaging becomes particularly important for monetization because good packaging is necessary to sell the commodity
- the USDA account is just a small part of Stone business--if improvements were made to the 12 million bags, it would require only hours of Stone plant use

Food Security Resource Center (FSRC)

Jessica Graef, FAM/FSRC

Please refer to the presentation overview in the Haiti section on page 16 .

G. Working Group Discussions

As in Haiti, the workshops participants divided up into small working groups to allow for more in-depth and focused discussion. During this first phase of the working group activity, the groups met to cover the following objectives: discuss possible recommendations/activities, discuss challenges/obstacles, and identify responsible parties for the recommended activities.

1)Ports (leader: Walter Franciscovich, CARE)

2)Rural Storage (leader: Kevin Tobin, CRS)

3)Partnerships (leader: Jules-Lynn Frost, WVRD)

4)Training and Information Dissemination (leader: Paige Harrigan, FAM).

Section III. Report Back Sessions/Plenary

1. Partnership

Partnership Groups Recommendations from Haiti

The Partnership small group first compiled a list of the various partnership actors: USAID, USDA, NGOs, PVOs, other technical/prm units, foreign governments (ministries, customs, ports), freight forwarders, shippers, transporters, warehouse, communities/end recipients, surveyors, parastatals, fumigators, local agents, other donors, monetization actors (buyers, traders, millers), international/national facilitators/information sharing actors, headquarters/field offices, FAM, Congress, media, taxpayers, UN, and international organizations.

The group first discussed the obstacles and challenges to strengthening partnerships.

- lack of communication between headquarters and field offices
- technological limitations
- busy staff
- information overload
- cost constraints
- redundancy
- changing laws and policies
- competition factor among PVOs due to donor performance review (may compromise honesty)
- unclear roles/responsibilities/authority
- absence of follow-up after workshops
- varying capacity of partners
- lack of resources for training and constant flow of information (particularly for local staff)
- government restrictions hamper innovations (especially at the field level)

Recognizing these obstacles, the group developed the following recommendations for partnership activities:

- 1) **Establish electronic bulletin boards** (also discussed in Johannesburg). The group suggests that electronic bulletin boards be created to post ideas, thoughts, and concerns related to commodity storage and loss reduction. These bulletin boards will serve as a means to post/answer questions, improve coordination, eliminate redundancy, and brainstorm. In addition, the bulletin boards could be used to disseminate information on such issues on regulations and policy changes. The bulletin boards would be accessible worldwide. While there was some discussion of posting the bulletin boards through the FAM-hosted CSLR website, the bulletin board might also function as a listserv. *Parties:* FAM as host, supported by the contributions of PVOs, USAID, and other donors. FFP would be responsible for updating policy information. The point people (see recommendation #4 below) would be responsible for regularly checking the bulletin boards (once a month, for instance) and encouraging use of the bulletin boards. *Timeline:* As soon as possible.
- 2) **Revive training and workshops calendar.** The PVO training and workshops calendar should be revived and maintained. PVOs could participate in other organizations' training programs. The training calendar would serve as a means of promoting partnerships, improving coordination, eliminating redundancy, and building capacity. *Parties:* FAM as host of the calendar on the CSLR website, with contributions from the PVOs. The point person would be initially responsible for maintaining the calendar and for promoting the use of the calendar. *Timeline:* by August 1.

One participant commented that there is a training committee in FFP, from which this training calendar has evolved. Mendez England has taken the lead on contacting PVOs to compile the training information. PVOs will need to send the training information to FAM or Mendez. (Ideally, the information should be sent to one central point, which is currently Mendez. Note: since the CSLRP workshops the responsibility for maintaining the training calendar has to shifted back to FAM.)

- 3) **Create an e-mail database.** An e-mail directory, or food aid contact database should be posted on FAM's website. The database would be initially built from the contact information gathered from CSLRP workshop participants. The database would improve coordination and partnership.
Parties: FAM and Mendez England. Mendez England is in the process of compiling this information.
Timeline: by October 1.
- 4) **Identify point person.** A point person should be identified for each headquarters office, field office, and agency. These individuals will serve as the contact points for commodity storage and loss reduction issues and will take responsibility for responding to tasks, coordinating activities, and forming resource/working groups. The point people should be included on the CSLRP webpage. The point person should be held accountable and effectively implement these duties and should help improve coordination and planning activities. To help institutionalize the role of the point person, it was suggested that the point person's scope of work should reflect this duty. This will serve as a means of bringing in other actors, those outside of the PVO community, into the communication process.

Discussion:

- It was asked that the group more clearly define the key contents and purpose of partnership, as this is important information to get people interested in the recommendations. In response, the group stated that the partnerships will help reduce workload by eliminating redundancy of activities; contribute to cost savings; help improve the headquarters and field office relationships; and ensure follow-up activities after the close of the workshop.
- One participant mentioned that the partnerships can serve as a means of disseminating lessons learned booklets and sharing other documentation.
- It was pointed out that FAM and FSRC cannot conduct these web page information activities on their own. They will need support from the other actors to ensure full information input. One participant mentioned that the point person will be responsible for initiating the process and ensuring that this communication with FAM take place.
- As this will be a large, important undertaking for a limited FAM staff, one participant suggested that perhaps organizations can institutionalize seconding of staff to help FAM (or Mendez England) address some issues.
- It was also mentioned that working group relationships have proven to be successful examples of partnership activities that have helped to address specific issues and key themes. One individual added that these working groups can also serve as a vehicle for informing interested parties of these activities and the CSLR website.
- The CSLR webpage partnership focus could potentially be used to communicate the meanings of acronyms/language that may not be familiar to other organizations. For instance, the USAID/FFP/PVO acronyms may be foreign to WFP staff.

Partnership Group Recommendations from Johannesburg

- 1) **Enhance the Commodity Management Information System via the FSRC** (also discussed in Haiti). Develop FAM-consortium member proposal to FFP and/or others (e.g., PVOs) for additional resources and personnel for FAM to manage additional information system/Listserv/Bulletin Board. Ensure web linkages to others (e.g., WFP). *Parties:* FAM to shepherd and explore funding. *Timeline:* Within 1 month (by August 30), FAM will call meeting to discuss concrete next steps.

- 2) **Develop case studies of effective partnership to demonstrate to donors, PVOs, etc. how partnership can work/its value/etc. and foster collaboration.** Propose that these case studies will be foundation for "higher-level" dialogue to enhance that level of leadership in encouraging coordination (give green lights at other levels, e.g., it becomes the way we do business). *Parties/Action:* Each FAM member and WFP to submit 3 or more one-page summaries of success/effective stories. *Timeline:* December 1 to Jessica Graef.
Who to do analysis and write actual case studies for redistribution and posting on the web?
- 3) **Create best practices manuals for specific topics in commodity management** to achieve synergy and support development of higher standards as well as facilitate and promote training of any/all commodity management types. Ideally, this will be a catalyst to coordinate/joint training and potentially joint food need assessments. *Parties/Action:* FAM to put this suggestion on annual meeting agenda to get consensus/concurrence and develop actual next steps. Suggestion to use short-term expertise to complete tasks. *Timeline:* October 1998.
- 4) **Include WFP representative in food aid/commodity meetings at Washington, D.C. level.**
Parties/Actions: FAM via letter to WFP Washington, D.C. representative. *Timeline:* Immediately.
- 5) **Develop comprehensive list of partners/groups/initiatives at field and HQ levels to improve collaboration, reduce redundancy, and strengthen field/HQ communications.** Will be posted on the CSLR web page. *Parties:* All PVOs and WFP to FAM. *Timeline:* December 1 to Jessica.
- 6) **Request use of the best quality packaging available to reduce loss.**
Parties: FAM members and WFP with FAM lead. *Timeline:* September 1.

During the discussion and next steps period, several comments and questions were raised. The workshop participants offered the following additional suggestions for the Partnerships group's recommendation list:

- SOW to analyze current manuals already available at FSRC and identify elements not yet developed (present at FAM annual meeting)
 - share monetization proposals/information in-country
- use already formed Local Capacity Building Working Group (share case studies in Food Forum)
- get loss analysis (cost-benefit analysis) from Steve Searcy (use analysis from Ben and Lee on packaging)
- need FFP to coordinate/take lead in-country with PVOs.

Discussion

- It was asked whether best practices manuals would be necessary, raising the point that the existing manuals are available in the FSRC. One response was that the focus would be on best practices to be used across agencies, to raise the level of everyone's work. Some agencies may not be aware of other agencies' manuals and may proceed to create their own. The idea would be to create one to be recognized as the standard.
- Someone then asked how these recommendations would fit into the areas of collaboration and priority areas that the FAM membership has already agreed upon (monitoring and evaluation, local capacity building, and monetization). A participant replied that it would be in the best interest of FAM to fit any recommendations in as much as possible within current resources and plan.
- A participant pointed out that the PVO Monetization Manual that is being developed by the FAM Monetization Working Group is necessary as monetization has changed over the years. While there are some new techniques in commodity management, the legislation and requirements have not changed as

much. Perhaps a listserv mechanism might serve as a more dynamic, interactive means of exchanging best practices information.

- While one participant agreed that an interactive means of exchanging the information would be useful, she maintained the importance of consolidating the many different commodity management manuals. Another participant pointed out the value of developing a common set of books, printed under a FAM cover, that would be comprehensive about specific single subjects (such as port operations or customs clearance procedures). These could serve as common textbooks to be used for training.
- Someone pointed out that the first step of the process would be for someone to review the existing manuals and see if there are any gaps. The idea can be raised at the FAM annual meeting as well as at CARE's commodity management workshop in August. It is important, however, for the PVOs to maintain a commitment to share best practices and other useful information electronically.
- It was suggested that recommendation #3 be revised to say that a Scope of Work will be drafted for an individual to analyze the current manuals. FAM members must first agree to this action item, however. Workshop participants must also commit to sending their relevant manuals to the FSRC. FAM Local Capacity Building Working Group can assist in the case study effort listed in recommendation #2.
- The point was also raised that the packaging issue under recommendation #6 falls under the Food Aid Coalition realm. The Food Aid Coalition is a group of PVOs that work on legislative and policy issues related to food aid.
- Also related to the packaging recommendation, it was mentioned that the KCMO has the loss data. Steve Searcy said that his group will work with the PVOs in disseminating this information. It was agreed that the PVOs should commit to working with Steve Searcy and Lee Simmons on continuing this packaging issue.
- Someone pointed out that, recognizing that the PVOs do not have the capacity to conduct Bellmon Analyses, it might be useful for one PVO to conduct the analysis and share the information with other groups. One representative indicated that Save the Children's ISA proposal includes a plan to set up a monetization technical unit (to be funded by each PVO's ISAs) that would deal with Bellmon Analyses and other issues.

2. Ports

Port Group Recommendations from the Haiti Workshop

At the US port level, the following standard practices to be implemented at all ports:

- 1) **Continue/expand Vessel Loading Observation Procedure (VLOP):** VLOP should be expanded to include all commodities. *Timeline:* Short-term. *Parties:* USDA, USAID/Transportation Division.
- 2) **Inspection of ports/commodities:** USDA should make unannounced visits to ports and port warehouses. *Timeline:* Short-term. *Parties:* In addition to USDA, USAID and NGOs should undertake these inspections.
- 3) **Address Bill of Lading issues:** The current practice of recording the quantity that arrived at the time of vendor delivery on the Bill of Lading (rather than the actual amount at the time of shipment) must be changed. Carriers should record the actual amount (at the time of shipment) on the Bill of Lading. *Timeline:* Short-term. *Party:* Kansas City.
- 4) **Container scale ticket:** For container shipments, weight forms should be attached to the original Bill of Lading. *Timeline:* Short-term. *Party:* Kansas City.
- 5) **Freight forwarder should better coordinate from the mill point/supplier:** Freight forwarders should play a more active role. For example, the freight forwarder can call up the vendor to determine when the product will be available, when it will be shipped, and follow the shipment all the way through the supply chain. *Timeline:* Short-term. *Party:* freight forwarders.

- 6) **Minimize the number of containers on the Bill of Lading:** While the group initially recommended this, the group recognized that it is not a feasible option due to logistical issues.
- 7) **Review/evaluate port:** Port conditions and operations should be evaluated. *Timeline:* Long-term. *Parties:* PVOs, USG.
- 8) **Transit documentation -> call forward:** Transit shipment should be documented on the Bill of Lading. For example, it should be documented when call forwarding and bill of lading when is a transit shipments – in booking guidelines. *Party:* USAID/Transportation Division.
- 9) **Evaluate hook damage potential:** Some US ports make use of grabber hooks. It should be ensured that these hooks are not damaging the bags. *Timeline:* Short-term. *Party:* USDA (Ben Myatt).

At foreign ports, the following standard practices should be implemented:

- 1) **Transshipment ->same number on/off transshipments:** To alleviate problems with customs clearance (for example, in Haiti), every Bill of Lading should be considered as a lot and should not be segregated. All should go at once; no mixed lots should be shipped. *Timeline:* Short-term. *Parties:* PVOs (to indicate on Call Forward), USAID Transport.
- 2) **Communication is key to avoid loss:** Instant communication is important to figure out what action is necessary to address a loss. Short-term. *Parties:* PVOs need to communicate the information to Kansas City.
- 3) **Use no hooks:** several foreign ports use hooks that can cause damage. It should be policy that no hooks can be used. *Timeline:* Long-term. *Parties:* PVOs, ports, USDA/Ben Myatt.
- 4) **Equipment needs:** If port authority does not have the necessary equipment, equipment needs should be communicated to HQ offices. *Timeline:* Short-term. *Parties:* PVOs.
- 5) **Packaging materials available:** Packaging materials should be made available at the port for immediate reconstitution. *Timeline:* Short-term. *Parties:* PVOs.
- 6) **Presence:** PVOs must be present and should work with USAID, surveyors, ship agent, and health, port, and customs authorities. *Timeline:* Short-term. *Parties:* PVOs.
- 7) **Cooperation, relationships:** Cooperation among the different parties in the supply chain are essential. Long-term. *Parties:* PVOs must initiate the relationships among all parties.
- 8) **Move commodities:** The commodities should be moved out of the port as soon as possible. *Timeline:* Short-term. *Parties:* PVOs.
- 9) **Documentation prior to arrival:** Documentation prior to arrival is important to avoid delays. *Timeline:* Short-term. *Parties:* freight forwarder.
- 10) **Security issues:** Proper security is important. *Timeline:* Short-term. *Parties:* PVOs, USAID, local government.
- 11) **Evaluate warehouses at destination port:** *Timeline:* Short-term. *Parties:* PVOs, USAID.
- 12) **Pilot tests for more containerization:** *Timeline:* Long-term. *Parties:* All.
- 13) **Pre-slipping of high value commodities:** If able to do so, commodities should be pre-slung if being shipped to poor ports. *Timeline:* Long-term. *Parties:* USDA (USAID/Transportation Division, FFP, Kansas City).

The group identified the following **challenges and obstacles** that will be encountered in implementing these recommendations:

- 1) Reducing the amount of containers on Bill of Lading (recommendation #6, US ports) would be difficult to accomplish.
- 2) The high costs of implementation of some of these recommendations.
- 3) Identifying accountability among the actors can be a challenge. Clear definition of responsibilities throughout the supply chain are necessary.

- 4) Each port has its limitations (equipment, security, stevedores, etc.). These limitations should be identified.
- 5) Policies and regulations are restrictive.
- 6) Port staff may not be aware of the purpose of the commodities. Informing them of the importance of food aid and the impact of the programs may help to improve commodity handling.
- 7) Several layers of hierarchy are involved in the process.

To address some of the obstacles and challenges, the group recommended the following activities:

- 1) training, workshops
- 2) dissemination of information
- 3) cooperation and partnership among PVOs, USAID, USDA, and local governments
- 4) think tanks – experts in each field can concentrate on certain issues to come up with good recommendations
- 5) travel/field visits – USDA and other actors should travel to the field to witness some of the issues
- 6) strike teams/action teams should be set up to handle problems
- 7) define responsibilities
- 8) improve accountability

The key actors in the process are as follows:

- FAM: information dissemination; yearly workshops
- Trade Group: (commodity vendors, packaging, ports, carriers)
- USDA: Kansas City, Washington
- USAID: Food for Peace, Transport, Missions, Beth
- PVOs: regional core groups to address specific issues; CARE, CRS, ADRA, WVRD; partnerships; assign tasks/follow-up; long-term planning with six month reviews
- host governments, port authorities, related offices
- WFP

Discussion:

- As some freight forwarders do not always seem to be aware of the regulations, the freight forwarder should have a checklist to make sure all issues have been addressed everything covered. PVOs should make sure to communicate with the freight forwarder to ensure that they are informed of all relevant information.
- A question was raised about the status of reconstitution materials. The 2% option is no longer available, because the Title II program is used to ship food, not packaging. It is still possible to obtain packaging materials for reconstitution either locally or from US suppliers.
- It was suggested that PVO maintain profiles on country ports on such information as custom requirements, regulations, available ports, equipment available, what commodities and packaging can be handled. This sparked some discussion of who would be responsible for inputting the information, who would house the database (some suggested that FAM house it), who would maintain it. It was pointed out that some of this information is already available (private sector; WFP). Some participants commented that this database might also include information rating the performance of port superintendents, surveyors, shipping agents, and other parties. Some felt that if these actors became aware of this performance rating system, they might be held more accountable and become more cooperative, but a cautionary note regarding the legality of disclosing this sensitive information was also raised.

Port Group Recommendations from the Johannesburg Workshop:

US Port Level:

- 1) **Write USDA requesting to re-design the Scope of Work for VLOP.** PVO involvement in re-writing VLOP to include all commodities. *Parties:* PVOs CARE, CRS, WVRD. *Timeline:* draft letter to be shared prior to October conference.
- 2) **PVOs should be allowed to randomly survey load port and share information with other PVOs.** *Parties:* PVOs, CCC funded. *Timeline:* by October 1.
- 3) **PVOs request copy of VLO certificate.** *Parties:* PVOs to follow-up with Freight Forwarder. *Timeline:* immediately.
- 4) **Identify party to be held responsible to see that the integrity of commodities is maintained.** *Parties:* KCCO EOD to identify the responsible party. *Timeline:* by October 15.
- 5) **Develop system to be used by USDA and PVOs to evaluate port performance.** Taken into consideration when awarding contracts. *Parties:* PVOs meet with Director & Deputy of KCCO.
- 6) **Develop system to evaluate carrier performance.** Use for consideration when awarding contracts. Involve PVOs in process. *Parties:* PVOs meet with Director & Deputy of KCCO.
- 7) **Recommend shipments be containerized when feasible.** *Parties:* PVOs recommend to USAID/Washington.
- 8) **Interested PVOs form a group to review and analyze losses and make recommendations to USAID and USDA/KCMO.**
- 9) **Avoid shipping two separate quarter Call Forwards simultaneously.** *Parties:* PVO to communicate with Freight Forwarder, who will communicate with shipping lines.
- 10) **As a result of packaging studies conducted, 3 PVOs involved in CSLRP to send letter to USDA to recommend stronger bags.**
- 11) **Utilize dunnage/plastic sheeting between container doors and commodities.** *Parties:* PVO>Frt.Fwdrd.>Ship Lines
- 12) **Vegetable oil should be shrink-wrapped and palletized.** *Parties:* USAID approval.
- 13) **Develop Inspection Manuals for PVOs to use as a guide for domestic and foreign ports.** *Parties:* PVOs.

Destination Port Level:

- 1) **Joint meetings** be held between port officials, ship's agents, PVOs, clearing and forwarding agents, and surveyors prior to vessel arrival to educate and inform all parties about the commodities and their intended use/purpose. *Parties:* PVOs and local agents. *Timeline:* immediately.
- 2) **PVO group compiles and disseminates the documents required to clear cargo from the destination ports.** Needs to be country/port specific. *Parties:* PVO (local and HQ); FAM to disseminate through the CSLRP web page.
- 3) **PVO should assign a Port Officer to oversee discharge operations and movement of cargo out of port.** Partner and assist smaller PVOs that do not have these people identified. *Parties:* PVOs.
- 4) **Provide evaluations of discharge port operations** to include recommendations for improvements of port operations for future shipments. *Parties:* PVOs.
- 5) **Provide training of Port Officers and PVO surveyors by utilizing Port Manual developed by PVOs.** *Timeline:* within in one year.
- 6) **When returning money received from sale of unfit food (and inland loss recoveries) to local AID Mission, have option of retaining portion of funds for port improvements and to purchase needed port equipment, i.e.: spreader bars, pallets.** *Parties:* PVO>AID Mission.
- 7) **Develop list of information needed about destination ports, i.e., port regulations vs. actual port practices.** *Parties:* Steve Searcy/PVOs.

Discussion:

- It was suggested that the list include a recommendation to appoint a good surveyor at the port.
- One participant mentioned that they have found it useful to let local inland transport companies know when a contract will be up for bid. These companies might be very good, but may not know about the opportunities or the system by which the contracts are bid.
- It was suggested that a recommendation be added that PVOs test their own food at the load port.
- It was suggested that it be routine that PVOs get a free sample of the commodities for each shipment. That way, any problems can be detected immediately. Lee Thompson expressed her skepticism that USDA will provide these samples.
- It was suggested that the next Food Forum include an article that elaborates on these destination port issues. These recommendations are good. He also suggested that the information obtained through recommendation #4 under the foreign ports section be documented and shared. He thought that perhaps ISA funds could support someone to undertake this activity. One participant pointed out that the Foreign Agricultural Service conducts a lot of these activities.

3. Storage**Storage Group Recommendations from Haiti**

- 1) PVO country programs should provide "lessons learned" summaries of all storage methods tried, as well as summaries of future planned tests
- 2) PVOs should provide a list of key persons involved in storage activities to FAM
- 3) improve networking of PVO staff
- 4) make a bulletin board available (possibly FAM)
- 5) FSRC should make post harvest management resources available
- 6) PVOs should provide storage project activities summaries to FSRC
- 7) PVOs should better utilize and contribute to FSRC
- 8) PVO country programs with cocoons should continue testing with interested communities
- 9) new pilot tests of cocoons not needed
- 10) encourage promotion of metal silos
- 11) encourage local initiatives on loss reduction
- 12) design project to encourage grain traders to educate farmers on good storage practices
- 13) PVOs should continue the aggressive initiatives into loss reduction
- 14) increase awareness of the need for loss prevention by sharing loss data
- 15) expand our circle to include smaller PVOs who may be focusing on this topic
- 16) improve dialogue with aid community on this subject (i.e., FAO, WFP, UNDP)
- 17) report back to FAM in one year the progress on these recommendations
- 18) remember: food=life, food=\$\$

Discussion:

- One participant asked, considering that CSLRP funds will run out, what mechanism will be used to ensure that PVOs report back within one year. The group responded that they had originally set the report back period to six months to fit the timeframe of CSLRP, but it was then determined that six months would not allow for sufficient time to undertake these activities. It is up to the PVOs to be responsible for reporting back. It was suggested that FAM perhaps send out a reminder to report back. It was also pointed out that the close of the CSLR project does not have to and should not mean an end to these activities. These actions should be incorporated into regular activities. Institutionally, these activities should be incorporated into longer-term Title II program plan.

- The issue of whether commodity management advocacy activities should be incorporated into FAM's strategic planning was raised. FAM replied that the Food Aid Consultative Group (FACG) is the more appropriate forum for advocacy issues.
- One participant cautioned that the workshop and the follow-up planning stay focused on implementing these activities and communicating commodity management issues rather than becoming side-tracked on program sustainability issues.

Storage Group Recommendations from Johannesburg

- 1) Make documentation on post-harvest food storage (i.e. posters, booklets, videos) available to all NGOs involved in enhancing food security *Parties:* FAM. *Timeline:* November 1, 1998
- 2) Standardize and/or improve locally available storage facilities/technologies
Parties: Individual NGOs. *Timeline:* Next proposal period (could be various sources)
- 3) Investigate the use of oil drums (200 liter) and/or metal silos for grain storage in Africa. *Parties:* Individual NGOs. *Timeline:* 1 February 1, 1999.
- 4) Sharing available information on rodent/pest control. *Parties:* FAM/PVO Committee. *Timeline:* November 1, 1999.
- 5) Proper and specific feedback to GrainPro and PVO community on cocoon field tests by the 3 NGOs involved. *Parties:* OFDA, WVRD, CARE, CRS. *Timeline:* December 1, 1998.
- 6) Share lessons learned in rural storage practices/technologies. *Parties:* FAM/PVO Committee. *Timeline:* December 1, 1998.

Recommendations pertaining to food aid storage to reduce losses at distribution centers:

- Inform USAID/USDA immediately if poor quality commodities are received at the port. *Parties:* Individual NGOs. *Timeline:* Continuous.
- USAID/USDA should provide better packaging. *Parties:* USAID/USDA. *Timeline:* Continuous.

Discussion:

- One participant suggested that national workshops be held to educate warehouse managers about port practices. The group replied that they did discuss this option, but that they felt this might fall under the training and information dissemination working group's realm.
- FAM staff also pointed out that, for recommendation #1, PVOs should be added as responsible parties as they must get that information to FAM/FSRC. It was also mentioned that the ongoing studies from recommendation #5 would be added to the FAM CSLRP web page.
- A participant asked whether OFDA would be submitting a report to GrainPro and whether it is typical when Congress gives money that a report of recommendations be submitted. The OFDA representative replied that it is not standard, but that it does not mean that such a report should not be submitted. It may be a good idea. The CSLRP group will need to discuss this. She also mentioned that OFDA is not involved in the food aid business to the extent the Food for Peace is, so such a final report would not necessarily be in OFDA's interest. She also added that the issue surrounding this project should not be whether GrainPro is a good or bad option, rather, it should revolve around identifying the losses and providing concrete recommendations to reduce these losses.
- Someone suggested that, as the three CSLRP PVOs report back, they inform others of any alternative vendors they have found. These PVOs responded that they have had little success in identifying alternative vendors, but that this information would be reported if found.
- It was suggested that guidelines and recommended practices be compiled for safe reconstitution and repackaging. These guidelines should include the recommendation to re-test the commodity before it is reconstituted.

4. Training and Information Dissemination

Training and Information Dissemination Group Recommendations from Haiti

- 1a) **Translate more commodity management materials into Spanish/French.** Translate the proceedings from this workshop, for example. A consultant should be identified to conduct the translation. An individual from Honduras has already been identified to translate into Spanish. *Parties:* CSLR Project group (FAM, CRS, CARE, WV), PVOs should determine how to divide the cost. *Timeline:* September 1998
- 1b) **Translate some USAID guidelines.** Reg. 11, Handbook 9, and the Monetization Guidelines, for instance, should be translated. *Parties:* PVOs should advocate for this; USAID should make the funds available to do so.

Challenges/obstacles:

- USAID has been reluctant to translate official documents. USAID is concerned that the translation might not accurately reflect the spirit of the original documents.

Comments/Suggestions:

- The Food for Peace representative stated that this is a Legislative Office issues. FFP is unable to deal with the translation question.
- The monetization guidelines have already been translated into Spanish in Honduras, but not as an official document. It was suggested that FAM or FACG advocate for an officially accepted translation.
- It was suggested that perhaps the translation be accepted as an unofficial document that could be used on a general basis, but that if there were some dispute or question of interpretation, the original English version would be considered the official document.

- 2) **Promote cross-visits/regional meeting between NGOs** (also discussed in Johannesburg). Regional meetings and cross-visits between NGOs should be held. *Parties:* PVOs, PVO food staff.

Challenges/obstacles:

- cost constraints – unrestricted funds are often used for other issues rather than commodity management. PVO food staff should put a dollar value on food management to make commodity management a priority issue.
- need specific agenda

- 3) **Share commodity management information with each other and with the FSRC** (also discussed in Johannesburg) . Commodity management information must be disseminated to as many of the appropriate individuals as possible. Sharing information with one another and with the FSRC is important. Perhaps biweekly meetings between USAID and PVOs in a particular country may be helpful in ensuring the information dissemination. *Parties:* PVOs, FAM/FSRC.

Challenges/obstacles:

- information is not always disseminated to the appropriate individuals – for instance, the *Food Forum* publication is not necessarily filtering to the commodity management field staff
- a commitment from everyone to share more information may be difficult
- bi-weekly meeting between all PVOs in a country

- 4) **More formal commodity management training by NGOs and counterparts.** More in-house and in-country training as well as training of trainers should be provided. The training recipients should

be better targeted to include more warehouse and field staff. Training and capacity building of counterparts and commodity management training in emergencies should also be offered.

Parties: PVOs

Challenges/Obstacles:

- cost constraints
- decreasing food resource flows and changing country situations.

Training and Information Dissemination Group Discussion:

- It was suggested that Portuguese translations be provided as well.
- A participant suggested that Kansas State University's (KSU) Food and Feed Grains Institute (FFGI) reactivate its commodity management training programs. FFGI used to hold workshops on these issues (grain storage, logistics, insects, etc.) that PVO commodity management staff attended. FFGI stopped 6 or 8 years ago, but it is unknown why they ceased the courses. Several field staff have said they would like more training and have asked about summer classes. These courses would serve as useful training programs. The cost constraint of these programs was then raised. One comment was that if the interest were expressed, perhaps funding would become available from KSU or USAID. Or if enough staff communicated to headquarters the need for this training, perhaps the courses would cost less.
- CARE/Honduras was able to use monetization funds for training programs.
- The participants were asked if they felt that commodity management training funds are inadequate. CARE stated that it has allocated a specific amount for training. WVRD said they, too have funds dedicated to training, but much depends on the outcome of the ISA funding decisions.
- An ADRA/Haiti representative endorsed the importance of cross training. Another participant pointed out that cross fertilization training is a great way to reduce costs.
- It was suggested that the PVOs tap into private sector resources. Cargill has offices throughout the world and perhaps PVOs could make use of their services and expertise that are already in place. This would post no real cost to the private sector office since they are already present in the region. CARE/Honduras pointed out that Cargill is financing training in quality control for their staff. Another comment was made that the PVOs should consider this suggestion, as PVO relationships with the private sector is important both for a learning and funding source. One person emphasized the importance of determining who would be responsible for following up and contacting Cargill.
- A WFP representative stated that WFP has a great training budget. Their experience has been that employing the right people at the start is the most important, however, and that the training programs should focus on providing these individuals with very specialized training, rather than going the general training route.
- CRS/Baltimore pointed out that they are using some CSLRP funds to pay for short-term visits of one country program staff to another country program. By keeping these visits within the same region, they are able to enjoy some cost savings. Furthermore, this technique serves as a way to motivate and reward field staff.

Recommendations from Johannesburg

In Johannesburg, when developing recommendations the Training and Information Dissemination group assigned different types of responsibility categories for each of the activities. The responsibility was divided into the following three institutional levels:

intra: responsibility for the activity to take place within one PVO or NGO

inter: responsibility for this activity is between/among the NGOs/PVOs

extra: PVOs/NGOs will need to involve Governments, Donors, and the Private Sector to accomplish this recommendation

Training Recommendations:

- **Promote regional trainings** (also discussed in Haiti). This would include cross-training programs. These regional trainings would allow for cost cuts and would increase access to training for all levels of PVO staff. Furthermore, the training would be kept closer to the workplace so the application of the training would be more immediate.

The content of the trainings should evolve. For example, commodity managers would benefit by learning about the specifics of monetization. The group also discussed the importance of training as a mechanism for building the capacities of PVO staff and beneficiaries.

This activity faces the following constraints: 1) training in commodity management is not always a major priority at higher levels of PVO management; 2) field staff are very busy; 3) training needs and requirements differ across PVOs; 4) language barriers; and 5) money.

Parties:

PVOs *intra, inter*

Donors *extra*

Timeline: ongoing.

Information Dissemination Recommendations

- **Endorse information sharing** (also discussed in Haiti). This information sharing would involve a wide range of activities, including the following: FSRC, an electronic bulletin board, a training calendar, update and dissemination of the Food Aid Lexicon. These activities require two-way communication on a regular basis. These are inexpensive suggestions.

These efforts face the following constraints: technical difficulties, language barriers, failure of PVOs to contribute on a consistent basis, quality control issues, poor information sharing at the Government Level (Titles I, II and III/and across Agencies and Bureaus)

Parties:

PVOs *intra, inter*

FAM *intra, inter*

Donors *intra, inter*

Timeline: immediate and ongoing.

Discussion:

- One participant suggested that a broad, multilevel curriculum be developed. NGOs could pass through a certification process through this curriculum. He suggested that this might take place through FAM. Another person pointed out that CRS has a training module that might be helpful. A FAM representative stated that this issue has been raised at FAM meetings, but that it is still a pending issue for which more details are needed. He agreed that this might be a good thing to have available. Another FAM representative added that the FAM Local Capacity Building Working Group has discussed developing a certification program through ADRA, but no conclusions have been reached.
- One representative mentioned that CRS/Liberia held a training program under which the Chief of Logistics from Burkina Faso offered training to their staff. This proved to be a low-cost training program.
- It was asked whether the group had discussed training of local NGOs. The group replied that there was some extended discussion about this and that CARE/India had some experience working in rural capacity building.
- It was mentioned that the IARCs and NARCs (international and national agricultural research centers), CGIAR, FAO, IFAD, and other organizations should be considered in these training programs.

Next Steps from Haiti

The Haiti participants were asked to consider the small group reports and the other issues discussed during the workshop and then identify "next steps" for follow-up workshop activities. The participants came up with the following items:

- 1) Disseminate the CSLRP workshop proceedings (Haiti and South Africa).
- 2) Identify responsible parties to follow up on specific activities.
- 3) Conduct mini-workshops with colleagues and other country program staff about CSLRP workshop findings and recommendations.
- 4) Be proactive in sharing information between CSLRP workshop participants *now*.
- 5) Reporting CSLR findings to Kansas City workshop (October 27-30, 1998).
- 6) Utilize/join University of Tennessee bulletin board.
- 7) Adopt standardized practices/minimum standards or best practices (such as those covered under the Sphere project, described on page 24).
- 8) Organize a mini-seminar in Washington, D.C. that will bring together USDA, Food for Peace, and the private sector to discuss the outcome of this workshop.
- 9) Share best practices.
- 10) Field staff should give ideas/recommendations/tools to the FSRC to add to the dissemination information strategy.
- 11) Field staff should advise what materials/tools/resources are needed.

Final Recommendations/Action Items (from Johannesburg)

After the morning Report Back Session, the Johannesburg participants returned to their working groups to accomplish the following tasks: 1) consider the comments raised during the discussion period in the report back session, 2) review the Haiti workshop recommendations and 3) compile a list of prioritized recommendations to carry through as "next steps".

Partnership Group

- 1) CSLRP participants seek/request enhanced packaging for all Title II commodities for our programs
Action steps:
 - a) quick letter to Vicki Hicks (drafted by Ben Myatt) [Lee Simmons to follow-up with Ben Myatt, 7/30/98.]
 - b) letter to Vicki Hicks (if the first letter is insufficient) with cost-benefit analysis documentation attached by November 1, 1998

Parties: KCMO, CARE, CRS, WVRD, FAM

- 2) **Each PVO/WFP will collect and submit to FAM existing manuals (and any other materials) on commodity management and logistics for the Food Security Resource Center. FAM members will determine whether or not to pursue an overall commodity management manual with best practices after presentation at FAM annual meeting.**

Parties: PVO HQ point person to make request of field staff and be "collection point" and send to FAM
Timeline: by September 30, 1998

Next steps: When all of the information is with FAM, FAM will present to FAM members at annual meeting to determine whether to pursue analysis of existing manuals. If approved, FAM will draft a SOW to analyze the manuals to identify issues/areas not covered by existing manuals, and will compile a list of best practices for commodity management.

- 3) **FAM members/WFP will develop case studies of effective partnership to demonstrate to donors and PVOs how partnership can work and its value to foster collaboration. These case studies will be foundation for "higher-level" dialogue to enhance that level of leadership in encouraging coordination**

Parties: each FAM member and WFP to submit 3 or more 1-page summaries of success stories

Timeline: by February 1, 1999 to FAM

*at FAM Annual Meeting (November 98), A request will be made of all members (preceded by an e-mail message to the FAM contact list)

Next steps: Case studies to be reviewed by local capacity building working group. Then, CSLRP group, case study representative, or panel to present the case studies at Interaction Forum in Spring 1999.

Ports Group

- 1) **PVOs will request to participate with USDA in the rewriting of Vessel Loading Observation Program (VLOP) SOW to include all commodities**

Timeline: August 15

Parties: Kevin Tobin/Joe Gerstle to draft letter (support from CSLRP group)

- 2a) **PVOs will form a group to review and analyze losses and make recommendations for action steps to reduce US port and marine loss to AID/USDA/KCMO**

Timeline: first meeting, before end of August -> implementation within 3 months

Parties: CSLRP group (CRS, CARE, WVRD) and Commodity Management Logistics Unit at CARE

- 2b) **PVOs will consolidate inland loss data, including type and location and share it with PVO community**

Timeline: 6 months

Parties: CSLRP group

- 3) **PVOs will develop a system to evaluate carrier performance and US and foreign port performance – it is recommended that this information be taken into consideration when awarding contracts**

Timeline: 6 months to one year

Parties: PVOs; may need a consultant (funding required only if need a consultant)

Rural Storage Group

- 1) The use of oil drums, metal silos and traditional household storage methods will be investigated in Africa, and lessons will be shared**

suggested activities:

- identify experts who will then compile pilot projects
- explore KSU/FFGI for technical assistance and funding

Parties: Kevin and Beth *Timeline:* September 1, 1998

Training and Information Dissemination Group

Training:

- 1) PVOs will conduct training needs assessment – each PVO will contact regional directors to identify training needs**

Parties: PVOs (intra) - international; NGOs (inter) - host country national

Timelines: November 1998

Information Dissemination:

- 1) PVOs endorse and promote bulletin board on commodity management issues**

Parties: FAM intra/inter; PVOs inter

Timeline: December 31, 1998

- 2) The training calendar will be expanded beyond ISG funded activities to include commodity management and post harvest storage training**

Parties: FAM - reaching out to PVOs (intra, inter); PVOs (intra, inter) – to give more information to FAM

Timeline: October 1, 1998

INTERNATIONAL DISASTER ASSISTANCE

Appropriations, 1995	\$169,998,000
Budget estimate, 1996	200,000,000
House allowance	200,000,000
Committee recommendation	175,000,000

The Committee recommends \$175,000,000 for the "International disaster assistance" account for fiscal year 1996.

The Committee recommends an increase in the appropriation for international disaster assistance over fiscal year 1995 levels. The Committee recognizes the unique role the United States has played in responding to emergencies, however, budgetary pressures have limited the amount of that increase,

The Committee is aware that a significant cost associated with U.S. food and relief efforts overseas is grain spoilage and loss at ports of entry. To make better use of decreasing foreign aid funds, the Committee believes that significant effort needs to be made to improve grain storage. Accordingly, the Committee directs AID's Office of Foreign Disaster Assistance to expend up to \$3,000,000 to

initiate demonstration projects at overseas locations to improve weatherproof storage and reduce grain loss.

Survey Specifications

For All Cargoes

1. Furnish any information which would be beneficial to cargo interests concerning how losses occurred and/or possible actions for future loss prevention.
2. Document reconstitution efforts and results, including where, when, and how the recon weights were determined. Obtain and forward appropriate health officer's certificate and lab analysis for any cargo suspected to be unfit.
3. Do not check quality of cargo in sound packages.
4. Forward immediate facsimile/telex advice in the event of major damage.
5. Tally sheets must have a printed name and signature of the surveyor and tallymen who actually conducted the survey, and must be in English. Surveyors original notes with printed name and signature and an English translation must accompany the report. Survey report should have a printed name and signature by the actual surveyor whenever possible. Mail original and copy of the report with enclosures to this office.
6. Provide certification that you were present during the entire discharge and/or delivery/destuffing process. The certification for vessel discharge should be in the form of a letter signed by the surveyor, receivers agent, vessel's agent, vessel captain and stamped with the ship's stamp. For delivery/destuffing surveys, only, disregard the vessel captain signature and ship stamp and add signature by the inland contractor or their agent. False certification will result in termination of the contract and removal from the list of approved surveyors.
7. Immediately upon completion of discharge/delivery, fax the completed Preliminary Discharge/Delivery Survey Summary Sheet.
8. Survey report must include Final Discharge/Delivery Survey Summary Sheet for each commodity discharged.

Penalties for late submission or corrections to survey reports

The final survey report completed in full must be received in this office within 60 days from the last day of the discharge/delivery. Penalties will be assessed for the late receipt of survey reports. For survey reports received from 61 - 90 days after the last day of discharge/delivery date, a penalty of 30% of the

contract price will be assessed. For survey reports received after 91 days after the last day of discharge/delivery date, a penalty of 50% of the contract price will be assessed.

- : If the survey report is incomplete or significant corrections are needed to comply with the contract terms, penalties of \$15.00 for each request for the information or corrections may be assessed. Additional penalties of \$15.00 will be assessed if the request for corrections or additional information is not responded to timely and has to be requested a second time.

For balance of specifications see specific type of shipment.

Survey Specifications

Type of Shipment: Containerized Cargo

We require the surveyor to be continuously present during ALL discharging operations to:

1. List the container van numbers and the appropriate seal numbers at the time of delivery/destuffing. If seals are missing upon arrival at the inland destination, i.e., removed by customs at the port, the survey report should state the reason, if known.
2. Advise whether the container vans were in any way damaged at the time of delivery/destuffing. Furnish a photo or complete diagram and description of the damage, by container number, for the containers that sustained losses.
3. List the temperature and describe the outward conditions of refrigerated units.
4. Personally attend the opening and destuffing of each container van. Advise where the containers are opened. Tally cargo so you can determine what losses are occurring before, during, and after destuffing. Stroke tallies must be forwarded with the survey report. Describe physical location of surveyor during destuffing/tallying.
5. Identify quantity and condition of cargo destuffed by container number.
6. List by container number the actual or estimated weight loss of any damaged cargo. Provide a complete description of the type and severity of the damage i.e., torn/slack, wet, moldy, etc. Describe how the cargo was damaged and the location of the damaged cargo in the container. Notify the captain of the vessel or vessel's agent, in writing within 3 days of completion of discharge, the losses that you have observed. Furnish a copy of the written notice with your survey report. Please provide photographs of the damage if possible.

For delivery surveys, we require similar information, i.e. quantity and condition upon arrival at inland destination.

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Survey Specifications

Type of Shipment: Bulk Cargo

We require the surveyor to be continuously present during ALL discharging operations to:

1. Check vessel holds before and after discharge and provide details of findings.
2. Personally observe discharge of all cargo from the vessel. Report must describe the location of surveyor during discharge i.e., in the vessel hold, at the door of the container, at scale or weigh bridge, etc.
3. Describe in detail the discharging process. Remarks should be included on scale type, calibrations, and any other factor which may affect the accuracy of scale weights. If scales are not used, the reason should be stated and the method of weight determination fully described.
4. Provide actual or estimated (if scales are not used) quantity of cargo discharged and quantity lost during discharge. Specify how losses occurred.
5. Provide details of damage on board versus damage during discharge and describe the probable cause(s) of any damage or shortage losses.
6. Obtain copies of port and/or ship records, if possible, showing quantity discharged.
7. Provide actual or estimated weight loss of any damaged cargo. Provide a complete description of the type and severity of the damage i.e., wet, moldy, etc.. Describe how the cargo was damaged. Notify the captain of the vessel, in writing within 3 days of completion of discharge, the losses that you have observed. Furnish a copy of the written notice with your survey report. Please provide photographs of the damage if possible.
8. For free out bookings—distinguish between the losses caused by the stevedores at discharge versus the losses prior to discharge from vessel. Surveyor must board vessel, view cargo in stow, note any cargo suspected to be damaged, and assess any losses in stow.
9. Conduct draft survey at ports where scales are not available.
10. For bulk oil and tallow describe condition of pumps, hoses, pipes, and tanks of the vessel. Report on condition of shore tanks and/or tank trucks prior to discharge and certify that tanks are dry before discharge begins.
11. Verify that upon conclusion of discharge, cargo holds are empty. Note quantity of cargo left on board if applicable.

Additional requirements if cargo is to be bagged by vessel interests

We currently have two different types of specifications for bagging:

Bagging and Stacking at the Port

Cargo will be bagged and stacked by vessel interests. We require surveyor to be present to observe bagging operation and report the quantity bagged. The total bag count and total weight must be documented and the method of such determination stated. Stroke tallies must be forwarded with the survey report to document the quantity of cargo bagged and stacked.

AID Destination Bagging

Attend the bagging and stacking operation by vessel interests to:

- A. Draw representative samples using commonly accepted procedures in statistical sampling and inspection.
- B. Inspect cargo bagged and issue certificates certifying to the bag counts, stitching, and weight (both in total and in terms of variation per bag).
- C. Prepare stroke tallies to document the quantity of cargo bagged and stacked. Tallies must be forwarded with the survey report.
- D. Immediately report deficiencies in the vessel's bagging performance to vessel owner/representative, USAID mission, and this office.
- E. Advise where cargo is stacked.

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Survey Specifications

Type of Shipment: Breakbulk Cargo

We require the surveyor to be continuously present during ALL discharging operations to:

1. Check vessel holds before and after discharge.
2. Personally attend discharge of all cargo. Report on exact method of discharge and location of surveyor(s) during discharge. Report must describe the position of the surveyor during discharge and tallying of cargo.
3. Tally cargo so you can determine what losses are occurring before, during, and after discharge/delivery. Stroke tallies must be forwarded with the survey report. Describe physical location of surveyor during tallying.
4. Advise quantity and condition of cargo at discharge/delivery.
5. State losses occurring before, during, and after discharge.
6. Provide details of damage on board versus damage during discharge/delivery, and describe the probable cause(s) of any damage or shortage losses.
7. Provide actual or estimated weight loss of any damaged cargo. Provide a complete description of the type and severity of the damage, i.e., torn/slack, wet, moldy, etc. Describe how the cargo was damaged and the location of the damaged cargo. State how weight was determined. Notify the captain of the vessel, inland contractor or their agents, within 3 days of completion of discharge/delivery, the losses that you have observed. Furnish a copy of the written notice with your survey report. Please provide photographs of the damage if possible.

For delivery surveys, we require similar information, i.e., quantity and condition of cargo upon arrival at inland destination.

Rate Schedule

LOCATION: _____

Metric Tons (MT)
(Rates are per net mt)

Type of Cargo	1-999 MT Min. Fee*	1,000 - 5,000 MT	5,001 - 10,000 MT	10,001 MT and above
Bulk—No bagging				
Bulk—Including Bagging				
Breakbulk				

*Minimum fee applies only to tonnages less than 1,000 MT.

Number of Containers
(Rates are per container)

Containers	Min. Fee*	Min. 10 Max. 25	Min. 26 Max. 50	Min. 51 and Max. Above
Refrigerated				
Non-refrigerated				

*Minimum fee applies to less than 10 containers.

Rate schedule must be stated in U.S. currency

I certify that this firm has the expertise necessary to perform the survey services required by Commodity Credit Corporation at this port. I further certify that this rate schedule is my bid to perform survey services at this port for a period of one year from the date the contract is awarded to this firm and that such rate schedule is all-inclusive and will not change during the period under which the contract is effective.

Signature: _____

Title: _____

Firm Name: _____

CARE-Angola Pre-slung Test Cost Analysis

➤ Corn Shipment:

Bags Received Damaged at time of Vessel Discharge

<u>Pre-slung</u>	<u>% Damaged</u>	<u>Loose</u>	<u>% Damaged</u>
65	.42	290	1.42

- C&F Value of Loose Break Bulk Bagged Corn = \$262.58 / MT.
- If loose bags shipped pre-slung, damage@ .42% = 86 bags damaged
- Difference from actual: 290-86 = 204 bags undamaged from original loose total
- Cost of pre-slinging 920 MT. (loose B/L qty) * \$7.75 = \$7,130
- Estimated damage reduction if pre-slung = 204 bags or 10.2 MT.
- C&F value = 10.2 MT. * \$262.58 = \$2,678.32
- Additional cost of pre-slinging cargo vs. loose = \$4,451.68
- % Recovery of added cost due to pre-slinging = 37.5%

➤ Pinto Bean Shipment:

Bags Received Damaged at time of Vessel Discharge

<u>Pre-slung</u>	<u>% Damaged</u>	<u>Loose</u>	<u>% Damaged</u>
54	1.88	142	2.91

- C&F Value of Loose Break Bulk Pinto Beans = \$486.76 / MT.
- If loose bags shipped pre-slung, damage@ 1.88% = 92 bags damaged
- Difference from actual: 142-92 = 50 bags undamaged from original loose total
- Cost of pre-slinging 189.55 MT. (loose B/L qty) * \$7.75 = \$1,469.01
- Estimated damage reduction if pre-slung= 50 bags or 2.5 MT.
- C&F value= 2.5 MT. * \$486.76 = \$1,216.90
- Additional cost of pre-slinging cargo vs. loose = \$252.11
- % Recovery of added cost of pre-slinging = 82.8%

Seventeen Defenses of COGSA

46 U.S.C. 1304 (2)

Neither the carrier nor the ship shall be responsible for loss or damage arising or resulting from:

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- a Act, neglect or default of the master, mariner, pilot or the servants of the carrier in the navigation or in the management of the ship;
- b Fire, unless caused by the actual fault or privity of the carrier;
- c Perils, dangers, and accidents of the sea or other navigable waters;
- d Act of God;
- e Act of war;
- f Act of public enemies;
- g Arrest or restraint of princes, rulers, or people, or seizure under legal process;
- h Quarantine restrictions;
- i Act or omission of the shipper or owner of the goods, his/her agent or representative;
- j Strikes or lockouts- -or- -stoppage or restraint of labor from whatever cause, whether partial or general, *provided* that nothing herein contained shall be construed to relieve a carrier from responsibility of the carrier's own acts;
- k Riots and civil commotions;
- l Saving or attempting to save life or property at sea;
- m Wastage in bulk or weight or any other loss or damage arising from inherent defect, quality, or vice of the goods;
- n Insufficiency of packing;
- o Insufficiency or inadequacy of marks;
- p Latent defects not discoverable by due diligence; and
- q Any other cause arising without the actual fault and privity of the carrier and without the fault or neglect of the agents or servants of the carrier, but the burden of proof shall be on the person claiming the benefit of this exception to show that neither the actual fault or privity of the carrier nor the fault or neglect of the agents or servants of the carrier contributed to the loss or damage.





U.S. Agency for International Development
Bureau for Humanitarian Response
Office of Food for Peace
Washington, D.C. 20523-7600

To: Senior Management Team, and Strategic Objective Team 2, and
Participants

From: James F. Thompson, BHR/FFP/POD

Date: April 9, 1998

Subject: TDY to Haiti trip report

Purpose of the Trip:

Team from USAID BHR/FFP/POD, USDA/Washington and USDA/Kansas City would investigate: 1). reports of delays in container handling in the port of Port-au-Prince; 2). reports of delays on cargo arriving at U.S. ports; 3). financial risk management issues unique to Haiti; 4). the feasibility of using a port in Gonaives; 4). the timing of Title II and III monetizations.

Background:

The team consisted of James Thompson, BHR/FFP/POD, James Firth, USDA/DACO/PDD, Jeffrey Kahn, USDA/OGC, William Lang, USDA/KCMO, and Patricia Jennings, USDA/KCCO.

The team conducted meetings with personnel from the USAID Mission, PVOs, shippers, agents and Government of Haiti officials. Please note the attached itinerary and schedule of meetings and attendees. The team's overall goals were to assess operations at the port, assess the feasibility of using the port at Gonaives, review assertions by the ocean carrier Crowley American Transport (Crowley) of limited, if any, liability, for cargo loss and damages due to alleged factors beyond its control, and to determine the extent of container movement delays and reasons for those delays.

From a historical perspective, claims for cargo loss and damage and the financial management aspect of food aid shipments to Haiti have been problematic. Monetary recoveries for claims in past years have been low, relative to experience in other countries. Ocean carriers have successfully raised legal defenses limiting their financial liability due to many factors including, but not limited to, civil unrest, military interventions, and trade embargoes. Crowley recently asserted that the factors were beyond their control while inferring a position of very limited financial liability for cargo loss and damage on FY 1998 shipments to Haiti.

The TDY team determined that factors such as civil unrest and security at the port were not as pressing or relevant as in prior years. Further, such issues and local conditions were known to the carrier at the time of shipment. However, the team found that over the past several months many containers arriving at port of Port-au-Prince have not been forwarded to their intended destinations in a timely manner. Many factors have contributed to these delays and have further compounded the degree of the problems in Port-au-Prince. At the time of the TDY team visit, over 700 Title II food aid containers were at the port facilities.

The TDY team first reviewed the overall cargo handling and clearance procedure at Port-au-Prince in an attempt to discover the rationale behind the delays. A brief overview of the process is that the PVO must obtain clearance from the UCAONG, an agency within the Ministry of Planning (wherein they must have all documents up to date with each bill of lading). Once clearance is granted from the Ministry of Planning the documents are sent to the Ministry of Finance for the "Franchise" (duty free status) to be granted. The Ministry of Finance then sends the documents to Customs for clearance.

This process has some inherent delays, but there are options being considered by the Government of Haiti (GOH) to enhance the process. Some delays at Port-au-Prince but not all can be attributed to this process. The team has made several findings and recommendations from its review of the process.

Findings:

There was a change in GOH Port Customs clearance procedures on January 1, 1998. As of this date no cargo would be cleared that did not include physical delivery to port of all containers listed on each bill of lading. That is, containers would have to be received in port prior to clearance of bill of lading.

As a background note, since the railroad merger between the Union Pacific and Southern Pacific rail lines, there have been significant delays in cargo arriving at U.S. ports. Rail cars were gathered and delivered in quantities that exceeded the capacity of the ocean carrier's (Crowley) U.S. mainland facility. Due to limited space and high rail car demurrage costs, a decision was made by Crowley to move containerized cargo out of the Lake Charles to Puerto Rico in an attempt to consolidate containers for shipment to Port-au-Prince. Crowley experienced coordination problems in Puerto Rico and, consequently, mixed consignments of cargo were shipped to Haiti without all containers as manifested on the bills of lading.

Action has since been taken by the U.S. rail industry to resolve delays and to clear congestion at the U.S. ports. In light of changes in the Haitian Port Customs clearance procedures, Crowley now understands that steps must be taken to ensure that all containers are received as manifested for all future shipments. Crowley should be accountable for its own actions and any subsequent financial impact. USDA's position with regard to monetary recovery for the current Haiti claims portfolio and near-term anticipated claims is now considered to be much more favorable.

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It was further recognized and understood by all parties, including Crowley's local agent, "Agemar", that prioritizing "commercial" cargoes, coupled with delays in moving food aid containers out of port terminals, has a clearly detrimental impact on risk management and loss prevention issues, including the extent of cargo loss and damage. Further, delays in moving the humanitarian food aid containers has had a direct impact on pipeline disruptions for PVOs.

It was also noted that Title II monetization cargo had been given priority over regular distribution commodities in terms of clearance and movement to the Shodecosa warehouse. The need to prioritize was driven by the fact that on many days only 8 to 20 containers were being moved out of the IMT yards, and the monetization cargo was under contract to be sold. During the months that Title II monetization cargo arrived; December, January and February, the PVOs fourth quarter call forwards for FY97 were also arriving. Further, the PVOs had called forward the majority of their regular distribution commodities for FY98. The timing of the arrival of the monetization and regular distribution cargoes compounded the problems for GOH franchise paperwork and contributed to container congestion at Port-au-Prince.

Crowley's local port agent claimed to be moving between 8 to 20 containers of cleared P.L. 480 cargo per day from the IMT container yards. It is estimated that there are over 700 containers currently in storage at the IMT container yards. Some of the cargo has been cleared but has not been delivered due to the prioritization of the monetized wheat flour. Also due to the fact that cleared containers are stacked under other containers at the port, the process of identifying cleared containers and gaining access to them is cumbersome.

Finally, the TDY team assessed PVOs claims for losses, and notes that overall losses for the past two years, or since 1995, have been significantly reduced in comparison to prior years.

Recommendations:

BHR/FFP and TDY team support and encourage the Mission to fill the position of Logistics Manager that has remained vacant. We believe that this position could be used to better coordinate timing of PVO cargo arrival and logistics while facilitating the PVOs clearance through customs. The team also believes that the regular contact between a logistics manager and the port, customs, and other GOH personnel will emphasize USAID presence and profile, and contribute Mission's efforts to emphasize the importance the U.S. Government places on humanitarian assistance provided to Haiti.

TDY team suggests the Mission and PVOs use their bi-weekly forum to discuss procurement planning. Forum should note in particular the arrival of Title II monetized cargo in containers, and plan to avoid call forwards of distribution commodities during the same period.

TDY team notes that Mr. Georges Gonet, Director of UCAONG in the Ministry of Planning, was planning on attending the next PVO planning session held on March 31, 1998. We hope that Mr. Gonet will have completed a checklist for the appropriate paperwork that needs to be submitted for franchising prior to Ministry of Planning releasing the documents to the Ministry of Finance. The team applauds the Mission's efforts to support better coordination with the Ministry of Planning.

TDY team encourages the use of a single call forward for the monetization commodities, with a PVO breakout listed for accounting purposes. A single call forward for the monetization wheat flour will ensure that less paperwork will be necessary to clear customs. An amendment to the Umbrella Agreement signed by the PVOs will be necessary to allow a lead PVO to process the call forward on behalf of the other PVOs. Further the amendment should identify a single PVO as the lead organization to work with the Title III Management Office. This should simplify the amount of partners with whom the Title III Management Office needs to work.

TDY team suggests that the possibility of having the Title III Management Office as the "Notify Party" on the bill of lading so that they will be responsible for the Title II monetization cargo when it arrives. Much the same as is done with Title III monetization. If this is feasible, and the Mission concurs that Title II monetization will not suffer delays at port then the possibility of break bulk for Title II monetized wheat flour is encouraged. We suggest that the Mission communicates further with M/OP/Trans and BHR/FFP on this issue.

BHR/FFP encourages USDA to communicate with the owner/developer of the private port in Gonaives to make the necessary adjustments/additions to the facilities to ensure the feasibility of use of the port in Gonaives.

TDY team hopes that the shipper and agents will now expedite the backlog of cleared Title II containers at the port. The TDY team believes priority should be given to the humanitarian assistance cargo in lieu of commercial cargo. If nothing else, the balance of commercial versus humanitarian assistance cargo delivered needs to be altered in the short term.

TDY team reiterates the need for pro-active communication to ensure all pertinent parties are informed of developments in a timely fashion. Use of available communication tools such as fax or e-mail should follow proper channels, while proper protocol and timely communication by all parties allows for and indeed calls for courtesy copy distribution. It should also be noted pro-active and timely communication provides the pertinent file documentation necessary to assess USDA's aggregate financial risk management position. This same documentation also serves to support the potential monetary recovery of cargo loss and damage claims from the ocean carrier.

BHR/FFP believes from our discussions with Mission and Title III Management Office that the monetization program for Title II Cooperating Sponsors would best be conducted with bagged wheat flour for FY98. In that the Minoterie flour mill will not be ready for full operations until December 1998, BHR/FFP believes that wheat flour is the only operational alternative for FY98, for Title II monetization. Call forward for this commodity must be received by BHR/FFP/POD no later than August 4, 1998. A review of the operations of the Minoterie flour mill should be conducted for possible utilization in FY99.

BHR/FFP appreciates the Mission's interest in using wheat for the Title III monetization program. We await further confirmation from PPC, LAC, M/Budget and Mission on the commodity selection for the Title III program. If a processed commodity is to be selected for Title III, call forward should be received by BHR/FFP/POD no later than August 4, 1998. If a determination is made to use bulk wheat, call forward must be in to FFP no later than September 4, 1998.

BHR/FFP intends to begin discussions OP/Trans, and USDA on the use of Best Value procurement in shipping contracts, including greater use of break-bulk type shipments.

TDY team supports the Mission efforts to investigate the possibilities of using other ports. The cost of internal transportation in Haiti is expensive and road conditions are not optimal at all times. TDY team recommends a review of the facilities at Cap-Haitien in addition to the review of Gonaives for PVO programs. We further support the Mission's determination to be at the port in Gonaives to observe the off loading of the cement that is to arrive there shortly.

Given Haiti's problematic history with consideration to the unique factors impacting food aid shipments, and in light of the various potential adjustments to Title II and Title III program management, TDY team sees a need for ongoing assessment and suggests a mechanism be considered for periodic follow up and review.

BEST AVAILABLE COPY

World Vision Angola data

CONCLUSIONS

COMPARATIVE DATA

FOOD AID STORAGE

WAREHOUSE	MARCH	JULY	DIFFERENCE	COCOON	MARCH	JULY	DIFFERENCE
W. Average (kg)	49.8	49.6	0.2	W. Average (kg)	50	50.06	0.6
H. Average %	4.6	5.3	0.7	H. Average %	4.3	7.2	2.9
RG Average %	4.3	7	2.7	RG Average	3.6	2.6	1
WD Average	0	6.3	6.3	WD Average	0	1.6	1.6

INSCRIPTION:

W. Average - Weight Average
H. Average - Humidity Average
R.G Average - Rotten Grain Average
WD Average - Weevil Damaged Average

CONCLUSIONS

COMPARATIVE DATA

POST HARVEST STORAGE

WAREHOUSE	JUNE	JULY	DIFFERENCE	COCOON	JUNE	JULY	DIFFERENCE
W. Average	47.57	46.78	0.79	W. Average	48.48	48.13	0.35
H. Average	8.64	8.44	0.2	H. Average	9.48	9.56	0.08
W. Damaged	19.1	16.5	2.6	W. Damaged	22.1	21.8	0.3
Live weevil	0	0	0	Live weevil	0	0	0

Table 2 The effect of storage in a 5 MT. Cocoon on grain moisture content and insect damage on maize in 3 Provinces

2.1. ZAMBÉZIA PROVINCE

2.1a Loss due to Moisture content

Date in	MC(%)	Date Out	W.Bag (kg)	Sample	MC(%)	Bag ID	W.Bag (kg)
Sample 1	13.5	A	51.0	1	12.8	A	50.3
	13.3	B	50.8	2	11.1	B	49.0
	13.8	C	50.2	3	14.9	C	48.8
Total	40.5	--	152.0	Total	34.8	--	148.1
Mean	13.5	--	50.7	Mean	11.6	--	49.1

2.1b Loss due to insects damage

Date In	N° of grain damaged	Date Out	Sample	N° of grain damaged
1	5	1	8	
2	8	2	10	
3	18	3	24	
Total	31	Total	42	
Mean	10.3	Mean	14	

2.2. NAMPULA PROVINCE

2.2a Loss due to Moisture content

Date in	MC(%)	Date Out	W.Bag (kg)	Sample	MC(%)	Bag ID	W.Bag (kg)
Sample 1	9.2	A	49.5	1	8.7	A	49.0
2	9.3	B	50.5	2	9.1	B	48.0
3	9.4	C	48.0	30	9.0	C	48.0
Total	27.9	--	148.0	Total	26.8	--	145.0
Mean	9.3	--	49.3	Mean	8.9	--	48.3

2.2b Loss due to insects damage

Date in	N° of grain damaged	Date Out	Sample	N° of grain damaged
05/15	8	07/15	1	13
	12		2	17
	8		3	15
Total	28	Total	45	
Mean	9.3	Mean	15	

2.3. SOFALA PROVINCE

2.3a Loss due to Moisture content

Date in	MC(%)	Date out	W.Bag (kg)	Sample	MC(%)	Bag ID	W.Bag (kg)
04/30		07/10		1	9.5	A	49.8
Sample 1	10.3	A	50.4	2	9.8	B	50.2
2	10.2	B	50.8	3	9.6	C	49.7
3	10.1	C	50.8	Total	26.7	--	149.7
Total	30.6	--	152.0	Mean	8.9	--	49.9
Mean	10.2	--	50.7				

2.3b Loss due to insects damage

Date in	N° of grain damaged	Date out	Sample	N° of grain damaged
04/30		07/10	1	17
Sample 1	13	2	18	
2	12	3	21	
3	18	Total	56	
Total	43.0	Mean	18.7	
Mean	14.3			

Table 3. The Effect of storage in traditional granaries on grain moisture and insect damage (CONTROL)

2.4.1. Loss due to Moisture content

Date In	MC(%)	Date Out	W.Bag (kg)	Sample	MC(%)	Bag ID	W.Bag (kg)
Sample 1	9.5	A	50.0	1	8.7	A	47.5
2	9.4	B	49.0	2	9.1	B	46.5
3	9.3	C	50.0	3	8.6	C	47.5
Total	28.2	--	149.0	Total	26.4	--	141.5
Mean	9.4	--	49.7	Mean	8.8	--	47.2

2.4.2. Loss due to insects damage

Date In	N° of grain damaged	Date Out	Sample	N° of grain damaged
Sample 1	6	1	59	
2	10	2	67	
3	6	3	52	
Total	22	Total	178	
Mean	7.3	Mean	59.3	

3. RESULTS

Locality/Province	Grain loss (kg)		% grain loss (5 MT)	
	TLMC	TLID	TL	TL
ZAMBEZIA	21.0	18.5	39.5	0.8
SOFALA	43.3	22.0	65.3	1.3
NAMPULA	78.3	28.5	106.8	2.1
CONTROL	217.3	190.1	407.4	8.1
	Grain loss (kg)		% grain loss 5 MT)	
Locality	TLMC	TLID	TL	
CHUABO DEMBE	160.0	171.5	331.5	6.6

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**Commodity Storage and Loss Reduction Project
Workshop Agenda
Hotel Montana**

Port- Au- Prince, Haiti June 29 - July 2, 1998

Day 1- Monday June 29, 1998	Day 2- Tuesday June 30, 1998	Day 3- Wednesday July 1, 1998
<p>8:00 Registration</p> <p>8:30 Welcome/Objectives TJ Ryan, FAM</p> <p align="center"><i>Summary of PVO Operations Research Activities</i></p> <p>9:20 History of CSLRP Beth Stanford, USDA/OFDA</p> <p>9:45 CARE, Walter Franciscovich Review of program activities</p>	<p>8:30 Recap of Day One Overview of Day Two</p> <p align="center"><i>Related CSLRP Presentations/Discussions</i></p> <p>9:00 Commodity Packaging Issues Overview and Case Study Ben Myatt, USDA</p> <p>9:45 Overview of claims procedures and new software for monitoring loss Steve Searcy, USDA/KCMO</p>	<p>8:30 Recap of Day Two and Overview of Day Three</p> <p align="center"><i>Small Group Work Recommendations to the Pilot Activities</i></p> <p>9:00 Food Security Resource Center (FSRC) Presentation Jessica Graef, FAM</p> <p>9:15 Small Group Session Recommendations to the Pilot activities</p> <p>5 groups broken out by points in the food aid pipeline</p>
10:45 Coffee Break	10:30 Coffee Break	Coffee Available
<p>11:00 CRS, Kevin Tobin Overview of Shipment Tracking and PVO Port Officers' Responsibilities</p>	<p>10:45 USDA Commodity Shipping Procedures Richard Chavez, USDA</p> <p>11:15 "Commodity Management and Accountability" Walter Middleton, WVRD</p>	<p>Small Group Exercise, continued</p>
12:30 Lunch	12:15 Lunch	12:45 Lunch
<p>1:15 WVRD, Carol Horst and Leland Brennehan Field Testing of Hermetically Sealed Storage Units</p> <p>2:30 CARE, Holly Solberg Storage Methods</p>	<p>1:15 "Commodity Management and Accountability" KM Adeeb, CARE</p> <p>2:00 FFP/USDA Haiti Study Jim Thompson, FFP</p> <p>2:45 Supply Chain Cost Analysis Dr. Gary Dicer, University of Tennessee</p>	<p>1:00 Report Back Session from Small Group exercise</p> <p>Large Interactive Session/Plenary Groups 1-5 Debriefing/Question and Answer Session</p>
3:30 Coffee Break	3:45 Coffee Break	3:40 Coffee Break
<p>3:45 CRS, Kevin Tobin Storage Units</p> <p>4:45 Summary of Day One Evaluation Exercise</p>	<p>Informal Small Group Discussions</p> <p>4:45 Summary of Day Two Evaluation Exercise</p>	<p>4:00 Workshop Conclusion Evaluation Next Steps</p> <p>Explanation of Tours for optional Thursday Morning site visit activity</p>

Commodity Storage and Loss Reduction Project Workshop Agenda
Randburg Towers, Johannesburg, South Africa
July 27 - 29, 1998

Day 1 - Monday, July 27	Day 2 - Tuesday, July 28	Day 3 - Wednesday, July 29
<p>9:00 <u>Registration</u></p> <p>9:30 <u>Welcome and Objectives</u> - T.J. Ryan, FAM</p> <p>10:00 <u>History of CSLRP</u> - Beth Stanford, USDA/OFDA</p> <p>10:15 <u>PVO Project Summaries: General Activities and Conclusions</u> - Holly Solberg, CARE <u>Q&A</u> - Kevin Tobin, CRS <u>Q&A</u> - Jules-Lynn Frost, WV <u>Q&A</u></p>	<p>9:00 <u>Recap of Day 1</u> - T.J. Ryan, FAM</p> <p>9:15 <u>Panel Discussion: Post-Harvest Storage</u> - Verona Parkinson, WV Mozambique - Kevin Tobin, CRS - Representative from WV Sudan - Representative from Kansas State University</p> <p>10:30 <u>Q&A</u></p>	<p>9:00 <u>Recap of Day 2</u> - T.J. Ryan, FAM</p> <p>9:15 <u>Report Back Session/Plenary a. Partnerships</u> - Jules-Lynn Frost, WV</p> <p>9:30 <u>Discussion and Next Steps</u></p> <p>10:00 <u>Report Back Session b. Ports</u> - Walter Franciscovich, CARE</p> <p>10:15 <u>Discussion and Next Steps</u></p>
coffee/tea available	10:45 -- coffee/tea break	10:45 -- coffee/tea break
<i>(these presentations are scheduled to 30 minutes per presentation with 15 minutes for Q&A)</i>	<p>11:00 Richard Chavez, USDA <u>Delivery Delays Caused by Administrative and Programmatic Issues</u></p> <p>11:45 Lee Simmons, Stone Container Corporation <u>Packaging Issues</u></p>	<p>11:00 <u>Report Back Session c. Storage</u> - Kevin Tobin, CRS</p> <p>11:15 <u>Discussion and Next Steps</u></p> <p>11:45 <u>Report Back Session d. Training and Information Dissemination</u> - Paige Harrigan, FAM</p> <p>12:00 <u>Discussion and Next Steps</u></p>
12:30 -- Lunch	12:30 -- Lunch	12:30 -- Lunch

Day 1 - Monday, July 27	Day 2 - Tuesday, July 28	Day 3 - Wednesday, July 29
<p>1:30 <u>Panel Discussion – US Port, In-Transit at Sea, Port Storage, & Transfer to Distribution Centers</u> - Joe Gerstle, CRS - Steve Searcy, USDA, KCMO - Walter Franciscovich, CARE - SL Srinivas, CARE/India</p> <p>2:50 <u>Q&A</u></p>	<p>2:00 <u>Food Security Resource Center Presentation</u> - Jessica Graef, FAM</p> <p>2:15 <u>Overview of Working Groups</u> - TJ Ryan, FAM</p> <p>2:30 <u>Working Group Break-Outs</u> <u>a. Partnerships</u> - Jules-Lynn Frost, WV <u>b. Ports</u> - Walter Franciscovich, CARE <u>c. Storage</u> - Kevin Tobin, CRS <u>d. Training/Info Dissemination</u> - Paige Harrigan, FAM</p>	<p>2:00 <u>Overall Next Steps</u> - Working Group Facilitators</p> <p>Prioritize to 3-5 recommendations. Who is responsible? What are the associated costs related to the recommendations? What internal capacity issues exist? What is the timeline? What is the strategy?</p>
3:15 – coffee/tea break	3:30 – coffee/tea available	3:30 – coffee/tea break
<p>3:30 <u>SPHERE Project Presentation-Minimum Standards for Food Aid</u> Harian Hale, CARE</p> <p>4:00 <u>Q&A</u></p> <p>4:15 <u>Panel Discussion – Food Aid Storage at Distribution Centers</u> - Sam Boakai, CRS/Liberia - Rick Fitzpatrick, WV Sierra Leone - SL Srinivas, CARE India - Walter Middleton for WV Angola</p> <p>5:35 <u>Q&A</u></p> <p>6:00 <u>Evaluation Exercise, T.J. Ryan</u></p>	<p>3:45 <u>Working Groups Continue Building Upon Haiti Working Group Results</u></p> <p>5:00 <u>Reconvene into Plenary Evaluation Exercise</u></p>	<p>3:45 <u>Workshop Conclusion Final Evaluation</u> T.J. Ryan, FAM</p>
6:15 End Day One	5:15 – End Day Two	4:15 – End Day Three
Dinner Suggestion: Randburg Waterfront – within walking distance	Dinner Suggestion: Sign-up for Carnivore – shuttle service available	

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CSLRP Storage Experience Summary¹

Hermetic Storage Cocoon (GrainPro)	
Pros	Cons
Protect against elements Chemical-free insect control and rodent resistant if cocoon is properly filled. Can make insect infested commodities suitable for animal/human consumption. Portable/Flexible/Easy to transport Low operational costs ² Temporary warehousing Alternative to poor/inadequate storage Can be used to segregate damaged commodities Increase shelf life of commodities	Problems with zippers which affect hermetic seal Potential for rodent damage if not properly managed High purchase price 5 MT = \$900/150 MT = \$10,000 Can have high Operational Costs: set -up; personnel; time Not suitable for frequent in-out use Security Risks - - not "stand alone units" Protective atmosphere (low O ₂) eliminated each time opened

RubbHalls	
Pros	Cons
Capacity More "stand-alone" Value for Size (\$15,000 for 500 MT RubbHall vs. \$10,000 for 150 MT Cocoon) Suitable for frequent in-out use	Not as portable as cocoons Awkward set-up Not a solid structure - - There is limited protection from the elements

Rofi Tunnels	
Pros	Cons
Portable Multi-use - - Could be used to store commodities or house staff (tent-like) Suitable for frequent in-out use The tunnels can be linked together into a long structure, or T shaped.	High cost (\$7000 each) Security concerns

Benefits with the use of any of the above alternative storage technologies
 Increase storage capacity at regular warehouse sites •Storage at remote distribution sites
 •Storage for repositioned commodities •Storage after disasters

¹ This is based on summary information compiled by Holly Solberg/CARE and Kevin Tobin/CRS August 1998. Contact information for GrainPro cocoons, RubbHalls, and Rofi Tunnels are available at the FSRC.

² The determination of the cocoons having either low or high operational costs is still outstanding. The experience of some has been that the cocoons were set up easily and filled without trouble, while others encountered difficulties and time delays.

**Selected Bibliography of FSRC Resources on
Commodity Storage, Commodity Loss, and Commodity Management**

prepared by Jessica Graef
for the

***Commodity Storage and Loss Reduction Project Workshop
July 27 - 29, 1998, Johannesburg, South Africa***

This bibliography represents a sample of the resources on commodity storage, loss, and management that are available at Food Aid Management's (FAM) Food Security Resource Center (FSRC).

Commodity loss reduction workshops (Nairobi, Kenya and Cotonou, Benin), June 1997: Packaging and logistics management for food commodities utilized under foreign food assistance programs. Benjamin Myatt; USDA/Farm Service Agency/Contract Management Branch. 36p.

Reports on workshop discussions/presentations on the following topics: packaging, logistics, and procurement issues; vegetable oil packaging; blended and fortified commodity packaging; woven polypropylene textile bagged commodities; under-fill/shortweight issues; vessel loading observation procedure; and debt management and loss prevention relative to marine discharge activity.

Technical support for grain storage/losses program, World Vision Relief and Development. June 1997. Reed, C., Roe Bordsdorf, and William Anderson; Food and Feed Grains Institute, Kansas State University. Technical Assistance Report No. 141. 60p.

Includes Loss Reduction Research Manual; comparison sample sheet; and comparative cost/benefit analysis for grain storage alternatives.

Food for whom? Food security and the reduction of post-harvest losses: An overview of research data. February 1998. Philippe Villers, GrainPro, Inc. 36p.

Presents findings from survey of data (from 1950s to present) on grain losses in storage. Offers qualitative and quantitative evaluation of post-harvest losses and discusses climate, quality deterioration, pesticides and their environmental impact, safe storage, cost issues, and storage systems needs.

On-farm drying and storage systems. 1994. O.J. Loewer et al. American Society of Agricultural Engineers. 560p.

Describes the principles for the layout, design, and management of on-farm grain storage systems. Each chapter includes problem sets. Covers systems analysis, computer models, and grain systems; principles of drying; on-farm drying methods; fan performance and selection; on-farm storage; on-farm materials handling; selecting optimum equipment sets; layout and design of grain storage systems; and economics of on-farm drying, storage, and feed processing.

Storage of cereal grains and their products. 1992. D.B. Sauer. American Association of Cereal Chemists. 615p.

Includes chapters on physical properties of cereal grains; moisture and its measurement; biochemical, functional, and nutritive changes during storage; development of storage techniques: a historical perspective; whole grain storage; drying cereal grains; aeration and stored grain management; alternative storage practices; microflora; mycotoxins; rodents; insects: identification, damage, and detection; control of stored-grain insects; integrated pest management of stored-grain insects; sampling, inspecting, and grading; and the economics of grain storage.

Received as ordered. Video. USDA, Farm Service Agency and Federal Grain Inspection Service. This video "intended for use by recipients of U.S. bulk and bagged grain, rice, pulses, and processed commodity shipments, explains: 1) the importance of purchase contract specifications; 2) the process by which U.S. export commodities are handled and inspected from the point of packing until placed aboard the export vessel; 3) expected changes in quality that often occur in transit and in storage in overseas warehouses; and 4) the complaint resolution process, including drawing destination samples."

World Vision commodity management training video. Video. World Vision.

World Vision's training video for commodity management program staff. Discusses relief planning and management, commodity programming, port and warehouse operations, distribution and monitoring, and claims procedure.

SHARE de Guatemala's logistics manual. 1995. *SHARE de Guatemala; World SHARE.* 114p. Presents guidelines and procedures for SHARE de Guatemala staff in the access and use of P.L. 480 Title II commodities. Discusses the following operations: planning, procurement and shipping, warehouse, distribution, monetization, and accounting for commodities. Available in English and Spanish.

Section VIII. Logistics and distribution. CARE emergency policies and procedures manual. May 1997. *CARE Emergency Group.* 94p.

Presents guidelines for logistics planning, procurement of supplies, and distribution. Commodity management section includes discussion of procedures for commodity handling, warehousing and inventory management, warehouse site selection, commodity accounting, and losses.

World Vision commodity management training handouts. World Vision. 39p.

Contains World Vision handouts/guidelines on food aid planning process; steps to check in the life cycle of a shipment; warehouse practices; empty container guidelines; warehouse procedures (capacity, records and files, items to be found, stacking sequence); bill of lading and other transport documents; and distribution.

Managing moisture of grain for storage. 1997. Paulsen, Marvin R. *Proceedings from University of Illinois Grain Quality Conference: Managing Moisture in Grains and Oilseeds, March 26-27, 1997, Urbana, Illinois.* 7p.

Discusses factors in the management of moisture for safe storage. Includes sections on market moisture; allowable storage life; and the effect of moisture on insect activity, storage, and handling. Includes two export case studies.

Automatic controller for altering moisture content. 1997. Kallistad, Daniel. *Proceedings from University of Illinois Grain Quality Conference: Managing Moisture in Grains and Oilseeds, March 26-27, 1997, Urbana, Illinois.* 3p.

Studies the industry and regulator challenges in the management, measurement, and pricing for the moisture content of grains and oilseeds.

Improving accuracy and uniformity of measuring moisture in the market channel. 1997. Funk, David. *www.agribiz.com.* 8p.

Examines grain moisture meter accuracy and uniformity. Discusses moisture measurement technology, interfering factors, minimization of moisture measurement error, moisture meter accuracy for dry grain, GIPSA actions to improve moisture measurements, and new official moisture meter technology.

Preventing stored-grain insect infestation. 1997. Harein, Phil and Bh. Subramanyam; University of Minnesota. 5p.

Describes stored-grain insects, conditions that encourage them, and methods to prevent infestations.

Cereal grain drying and storage. 1997. Canada Grain Council. 12p.

Covers storage and conditioning of grain, appropriate conditions for storage, conditioning processes of cereal grain, aeration, drying methods, in-storage cooling, storage facilities, heating of stored grain, factors contributing to storage problems (moisture, insects, molds), and detecting and controlling infestations.

Renewed interest in commodity storage. Outlaw, Joe. agecoext.tamu.edu/publications. 2p.

Discusses the costs involved in grain storage.

GrainSafe: A user-friendly granary for on-farm storage of grain and seed, Instruction manual. April 1998. 8p.

A manual of the GrainSafe granary designed for the storage of grain at the farm level (Agricultural Research Organization).

GrainPro cocoon: For agricultural and economic development. 1997. GrainPro, Inc. 5p.

Brochure describing the GrainPro cocoon and its uses.

Trial on storing corn seed in airtight storage. Sukprakarn, Chuwit, Kanjana Bhudhasamai, Bussara Chankaewmanee. *Stored Product Insect Research Group, Division of Entomology and Zoology*. 11p.

Report on the trials of corn seed quality in airtight storage. Examines temperature, relative humidity, seed moisture, grain damage by insects, mold infection, and germination percentages.

Maize storage in a GrainPro cocoon: A preliminary trial. June 1998. Darko, J.O. Kwame Nkrumah University of Science and Technology, Ghana. 8p.

Reports results of a storage trial involving heavy insect-infested maize stacked in a 5 MT capacity GrainPro cocoon.

Characteristics and limitations of methods to estimate losses in stored grain. December 1986. Reed, Carl. *Special Report No. 16. Kansas State University, Food and Feed Grains Institute*. 23p.

Describes the most commonly-used methods of estimating loss to stored grain, and summarizes what is known of the characteristics and limitations of each. Discusses the principles upon which these techniques are based, their inherent errors, and ways to reduce variability and avoid inaccurate results. Empirically-derived correction factors and standard measures of expected variability are given where these are available.

Quality as an integral component of a grain storage and handling facility. January 1988.

Flores, Rolando. *Special Report No. 19. Kansas State University, Food and Feed Grains Institute*. 15p.

Considers the most relevant aspects of an organizational system for grain storage and handling. Examines the environment in which the facility will be developed, business structure and organizational guidelines, quality standards, maintenance of grain quality, imported grain, and economics of grain quality.

Proceedings of the GASGA workshop on postharvest information management, April 17-19, 1989. September 1989. Schenck-Hamlin, Donna. (ed.). *Special Report No. 22. Kansas State University, Food and Feed Grains Institute.* 159p.

Proceedings from a workshop for international postharvest representatives to address the following issues: information/documentation needs of postharvest projects, the role of the information manager in agricultural assistance, microcomputers as networking tools for postharvest centers, and agricultural data bases for postharvest research.

Glossary of terms - English, Spanish, French - storage, volume I. May 1990. 174p.

Glossary of terms - English, Spanish, French - marketing, volume II. May 1991. 100p.

Special Report No. 29. Kansas State University, Food and Feed Grains Institute.

Originally prepared as an interpretation aid for grain storage and marketing courses.

Integrating the technical and marketing approach for profitable utilization of grain postharvest technology. September 1991. Hugo, Cornelius, Richard Maxon, and Ulysses Acasio. *Special Report No. 33. Kansas State University, Food and Feed Grains Institute.* 39p.

Develops method to determine when and to what extent postharvest technology should be employed by producers and producer associations. Outlines the differences between a technical and marketing approach to grain postharvest management and integrates the approaches.

Discusses the use of the integrated approach in making marketing decisions.

Evaluation of grain losses in some CNP operations. January 1988. Chung, D.S., et al.

Research Report No. 28. Kansas State University, Food and Feed Grains Institute. 78p.

Report on a study of the grain quality changes and loss assessment at the Consejo Nacional de Producción (CNP) grain handling and storage facilities.

A bibliography of plant materials tested for activity against stored-product insects. August 1988. Burroughs, Rosemary, Donna Schenck-Hamlin, and Valerie Wright. *Research Report No. 29. Kansas State University, Food and Feed Grains Institute.* 38p.

Lists laboratory investigations and field observations of plant materials and their chemical components tested or used to protect stored grains and legumes against insect pests.

Evaluation of grain losses and grain drying performance at large grain storage and handling facilities in a developing country (some CNP operations in Costa Rica). February 1989. Arce-Diaz, Eduardo Antonio and Do Sup Chung. *Research Report No. 30. Kansas State University, Food and Feed Grains Institute.* 153p.

Master's thesis that focuses on post-harvest grain losses. Reviews grain loss assessment methodologies; evaluates grain losses during normal grain handling, drying, and storage operations at a few selected CNP facilities; analyzes grain cleaning and drying operations with respect to grain quality, thermal efficiency, and costs; and develops grain loss reduction strategies.

Comparison of traditional and improved methods of farm maize storage in Honduras.

September 1989. Espinal, José R and John R. Pedersen. *Research Report No. 31. Kansas State University, Food and Feed Grains Institute.* 61p.

Compares an improved method of farm storage with the traditional method. Evaluates the effectiveness of anhydrous lime as well as an insecticide as methods to control insects that attack stored maize.

Design of grain handling and storage facilities for tropical countries. *January 1990. Benavides, Carlos and Do Sup Chung. Research Report No. 32. Kansas State University, Food and Feed Grains Institute. 155p.*

Master's thesis that examines grain quality maintenance and posharvest grain losses for the development of methods for planning optimal grain storage and handling facilities. Discusses the advantages and disadvantages of using concrete or steel bins for storing grains under tropical conditions. Studies the parameters involved in the design of commercial grain storage facilities. Conducts cost analysis for the processing equipment and storage structures used in commercial facilities. Applies systems analysis for optimum selection of storage structures and for optimum design of commercial grain handling and storage facilities.

A natural convection grain dryer for humid developing countries. *January 1990. Haque, Ekramul. Research Report No. 33. Kansas State University, Food and Feed Grains Institute. 27p.* Reports on the construction and operation of natural convection grain dryers for application in humid areas of developing countries.

Moisture sorption of bagged grain stored under tropic conditions. *February 1990. Guritno, Purboyo, Ekramul Haque, and Do Sup Chung. Research Report No. 34. Kansas State University, Food and Feed Grains Institute. 117p.*

Study undertakes the following objectives: determines the rate of moisture sorption of grain in bags; explains the moisture sorption by the use of acceptable moisture sorption models; and assesses the difference in moisture sorption rates due to the fiber from the which the bag is woven.

An assessment of the storage of grains in Ukraine and Russia. *September 1992. Borsdorf, Roe, Larry Dirksen, Virgil Eihusen, and Roger Wolfe. Technical Assistance Report No. 129. Kansas State University, Food and Feed Grains Institute. 119p.*

Examines options for improving grain storage in the New Independent States (NIS). Discusses the emerging private sector and the need for low-cost storage in the agricultural producing regions.

Postharvest handling of maize and beans in Uganda. *September 1994. Acasio, Ulysses and Roe Borsdorf. Technical Assistance Report No. 138. Kansas State University, Food and Feed Grains Institute. 116p.*

Crop postharvest handling analysis for maize and beans. Identifies the causes and estimates the magnitude of postharvest losses of maize and beans in Uganda throughout the postharvest marketing system. Identifies technologies and practices to improve postharvest handling of these crops.

Technical support for grain storage/losses program, CARE items 1-4. *1997. Reed, Carl, Roe Borsdorf, William Anderson, and Donna Schenck-Hamlin. Technical Assistance Report No. 142. Kansas State University, Food and Feed Grains Institute. 86p.*

Contains a summary of research findings on 1) hermetic storage of grain and grain products, and 2) effects of storage and transportation on the nutritive value of grains and grain products. Outlines recommendations and plans to determine the moisture content changes of commodities. Also includes section on predicting moisture changes in grains and grain products. Contains CLRP research manual and comparison sample sheet.

Survey report on losses of PL 480 Title II commodities in Haiti during the political transition period. *1995. Regional Inspector General. [20]p. FSRC #6569.*

This survey reviews the circumstances surrounding the theft of Title II commodities in Belladere, Haiti and reviews security and internal controls.

Application of modified atmospheres under plastic: Covers for prevention of losses in stored grain. 1995. *Shlomo Navarro; USAID.* 33p. FSRC #6446.
Describes project that developed temporary or emergency grain storage facilities that do not require chemical pesticides.

Precepts of seed storage (revised). 1990. *Delouche, James C.* 22p. FSRC #6419.
Discusses issues surrounding successful seed storage programs.

Postharvest grain loss assessment methods. 1976. *Harris, Kenton L. and Carl J. Lindblad; League for International Food Education; Tropical Products Institute; FAO.* 193p. FSRC #5981.
Manual that was developed as the result of workshops on postharvest grain loss methods. Includes chapters on the following issues: overview of the postharvest system; on-site rapid appraisal; sampling and interpretation of results; loss causes and measurement; standard measurement techniques; and operations standardization and control.

Summary of USDA/AID P.L. 480 program conference-April 25 & 26 1995. *USAID.* [25]p. FSRC #5852.
Discusses USAID procedures for commodity request review, procedures and responsibilities, processed product procurement procedures and issues, bulk commodity procurement issues, transportation, marine cargo loss and damage, debt management, and loss prevention.

Ocean transportation of grain and contracts. 1985. *UNCTAD; Kansas State University.* 23p. FSRC #5847.
Presents a general discussion of the structure of the shipping industry, the role of chartering broker, world bulk freight market, operational considerations, marine transportation options, chartering grain shipments, marine transportation bidding, and ocean freight estimation.

Costs of conducting food projects: Overview. 1991. *Barbieri, Lawrence, Steven Hansch, and Cynthia Mills; Support Services International, Inc.* 13p. FSRC #5807.
Discusses NGO cost breakdowns and associated factors of conducting food projects. Outlines the following tradeoffs: skill of managers vs. time required by managers; evaluation vs. staff, on-site vs. transport; losses vs. security costs; timeliness vs. planning costs; reliability vs. contract costs. The losses and security costs section presents a typology of food losses.

Food Aid Management, Commodity management and computerization: A guide to decision-making. 1996. *JSK Associates; Food Aid Management.* 10p. FSRC #5787.
Presents issues to consider in the computerization of commodity management information.

Chapter IV: Management and logistics, Africare Food for Development Handbook. 1995. *Africare.* 20p. FSRC #5770.
Chapter from Africare's Food for Development Handbook. Contains guidelines for procurement procedures and shipping practices, port procedures and controls, overland transport, storage and warehouse management (handling of arrivals, stacking, infestation), handling of loss claims and disposal of damaged commodities, and commodity accountability.

Catholic Relief Services (CRS-HAITI) Manuel de gestion et de comptabilité des denrées. 1996. *Catholic Relief Services/Haiti.* [150]p. FSRC #5672.
Commodity management manual (in French). Developed after a workshop of the CRS Food Program in Haiti in 1996. Contains sections on port operations, internal transport, losses, monitoring, and inspection.

PVO commodity losses workshop, August 29-30, 1994. Nowell, B.; USDA. [70]p. FSRC #5521.

Contains notes from the USDA Export Commodity Claims Branch workshop on debt management and claims prevention. Workshop focused on marine cargo loss and damage claims.

Guidebook for non-governmental organisations on management of EC food security and food aid programmes. June 1995 (11th edition). #5359.

Step-by-step procedures for management of EC food security and food aid programs, from request for food aid through delivery and local purchase. Includes reporting procedures on shipping, damages/losses, and inland transport.

World Vision relief commodity manual. 1993. World Vision. [25]p. FSRC #05293.

Includes detailed sections on planning and project applications; operations and logistics; accountability and reporting; and end-use monitoring. Covers the following commodity storage and loss issues: transportation, warehouse storage and procedures, losses and reporting of losses, repackaging, unfit commodities, fumigation, and sale/disposition of empty containers.

CARE food resources manual. 1995. CARE; CARE Food Security Unit. [15]p. FSRC #05292.

Includes chapters on the following topics: programming food resources, assessments, internal control, agreements and contracts, call forward and procurement, port, storage and handling, food receipt and dispatch, losses and claims, inventory accounting and reporting, food distribution to sites, and monitoring project sites. Specific commodity storage and loss issues covered include port storage, selection of food storage facilities, warehouse security, open storage, stacking, maintenance, damage/loss prevention, reporting/documenting losses, and repackaging.

Losses of commodities after delivery to recipient governments (1 October 1993 - 30 September 1994). 1995. World Food Programme. 16p. FSRC #05175.

Report of WFP commodity losses sustained after delivery, October 1993-September 1994.

Food storage and handling: Manual for private voluntary agencies. 1991. Velado, Sidney; CARE. 51p. FSRC #04868.

Intended as a guide for staff members responsible for storage of Title II commodities. Includes sections on warehouse personnel, inventory control, initial storage, quality maintenance, identification and controlling of rodents and insects.

Holding depots in Zambia: Manual on establishment, operations, and management. 1990. van Lieshout, Ir Olivier; FAO. 30p. FSRC #04861.

Addresses the establishment, operations, and management of holding depots in Zambia. Includes some information on site selection, construction, pest control, inspection, moisture, and bag quality.

Historical evolution of storage techniques and policies. *Preservation and storage of grains, seeds and their by-product: Cereals, oilseeds, pulses and animal feed.* 1988. Sigaut, F. and Jean Louis Multon. 20p. FSRC #04275.

Reviews the history of storage techniques and policies. Addresses the following topics: storage techniques in relation to stored products, preparation of products for storage, conservation of products during storage, preservation of stored products, storage and technical systems, storage and physical environment (pests, cultivated plants, climate), and storage and society (scarcities and surplus; history and prehistory).

Size, location, infrastructure, and management of a food security reserve to assist famine relief in Ethiopia. 1987. *Overseas Development Administration (ODA)*. 96p. FSRC #03900. Outlines Food Security Reserve program. In addition to reviewing the background, size, and scope of the reserve, the report discusses warehouse, transport, and storage management issues.

Combating famine by grain storage in Western Sudan. 1987. *Ibrahim, Fouad N. GeoJournal* 14.1, 29-35. 7p. FSRC #03057.

"Traditional grain storage used to be an effective mechanism to combat famine in the rural areas of W Sudan. Of late, this mechanism has failed to function and a severe famine took place in 1984-1985. This paper endeavours to highlight this crisis, show the traditional methods of grain storage and point out ways of retrieving grain storage systems to start again on a less vulnerable basis. An assessment of grain storage requirements under the new conditions where both market and subsistence economy are effective in rural areas is made for the different ecological zones of W Sudan."

Tradition and change in postharvest pest management in Kenya. 1991. *Goldman, Abe*. 11p. FSRC #02750.

Examines wide range of postharvest pest management practices of three contrasting farming areas in Kenya.

World Food Programme food storage manual. 1992. *Walker, D.J. (ed.); World Food Programme; Natural Resources Institute*. 181p. FSRC #01470.

WFP's food storage manual discussing commodity handling and storage; storage structures; moisture, humidity, and temperature measurement; effects of climate; transportation and handling; food packaging; inspection and sampling; food microbiology; pests and insecticides; rodents control; and training.

Food monitor's manual. 1993. *World Vision International*. 27p. FSRC #01449.

Manual developed by World Vision Mozambique Commodities Program. Contains procedures for commodity planning, reception, distribution, and accounting. Also discusses warehousing of commodities and loss reporting.

Port activities, Chapter from CRS commodity manual. 1992. *CRS*. 24p. FSRC #01198.

Chapter from CRS Commodity Management Manual. Covers port activities including shipment arrival/receiving guidelines; claims procedures for shortlanding, damaged commodities, repackaging, disposition of unfit commodities, excess landing, internal losses; storage at port procedures; and transport out of port.

Alimentar los niños: PL 480 manual de operaciones. 1993. *Barbieri, Lawrence and Tom Kivilan; Servicios de Apoyo Internacional; Feed the Children*. 88p. FSRC #00921.

This Feed the Children Operations Manual presents general information about Title II programs. It is directed to the food aid programmer. Different sections in the manual focus on Regulation 11, Handbook 9, Commodity Status Reports (CSR), Recipient Status Reports (RSR), Multi-Year Operational Plans (MYOP), Annual Estimate of Requirements (AER) reports, Commodity Pipeline Analysis, section 202(e) grants, emergency rations, and monetization. The manual also describes commodity management activities at the port, warehouse, and at distribution. Spanish language version.

World Vision workshop on commodity tracking systems and electronic communications, Addis Ababa, June 16-18, 1993. *Hoskins, Ben; WVRD/DC*. 17p. FSRC #00901.

Report on a workshop on commodity tracking systems. Includes discussion of CRS commodity tracking software, the history of commodity tracking at World Vision, and the future of commodity tracking.

Generally accepted commodity accountability principles. 1993. *Food Aid Management*. 28p. FSRC #711.

Set of professional standards relating to the management, handling, tracking, and reporting of the use of food commodities in international development and relief programs.

Practicas de almacenaje y control de plagas en programas de asistencia alimentaria, "Primer seminario de administracion y tecnicas de manejo de alimentos". 1988. *Amulfo Peñaloza T. and Rogelio Garcia; Catholic Relief Services - USCC*. #653.
Report conducted in Bolivia on sanitary control in warehouses.

Food aid managers training course: Grain and grain products. 1990. *USAID; Food and Feed Grains Institute, Kansas State University*. [400]p. FSRC #00640.

Includes documents on the U.S. grain industry, properties of grains, inspection systems and practices, grains storage and handling facilities, grain quality preservation, commodity processing systems, economics of grain processing, commodity transportation, commodity and freight purchases, marketing in recipient countries, and monitoring actions.

CRS commodity management manual. 1992. *CRS*. FSRC #540.

Includes chapters on commodity management activities at the following stages: planning, port, warehouse, distribution center, and reports/forms. Covers the following commodity storage and loss issues: transportation, warehouse storage and procedures, losses and reporting of losses, repackaging, unfit commodities, and sale/disposition of empty containers.

PVO commodity management and accountability. 1991. *Lizette Echols; Food Aid Management*. 47p. FSRC #00330.

Examines conceptual and pragmatic problems in commodity management. Outlines misconceptions surrounding food program management. Reviews points for PVOs to consider when designing commodity management systems.

Standardized food handling and monitoring manual, FTMP standardized operating procedures. 1990. *CARE/Sudan, Emergency Relief Department; Joe McGee and François de la Roche*. [60]p. FSRC #00121.

Outlines procedures for food handling and monitoring. Includes section on commodity management issues such as warehouse operations, stacking, infestation, monitoring, and accounting.

Commodities reference guide. 1988. *USAID; AID/FVA/FFP*. 100p. FSRC #00113.

Annex to Handbook 9. Guide is intended to "assist in decision making for planning, managing, controlling, and evaluating appropriate uses of Title II commodities." Includes sections on ration selection process, commodity selection, guidelines for program categories, commodity fact sheets, and commodity packaging and storage.

Open-ended bag problems: Investigation of multiwall paper CSB bag closure failures reported in India and recommended solutions. 1990. *Miteff, Steven and Diana Twede; USDA; Michigan State University*. 53p. FSRC #00097.

Reports on a USAID, PVO, and private sector working group trip to India to study the sources of bag end failures and other packaging problems identified in the Title II system. Presents corrective action suggestions.

CARE Latin American food handling and storage workshop report, Santo Domingo, Dominican Republic, June 18-June 22, 1990. *CARE; Velado, Sydney*. [60]p. FSRC #00096.
Report from workshop on food handling and storage. Addresses the following issues: inventory handling and quality maintenance, insect and pest control, fumigation, commodity sampling and quality control, commodity packaging, and sanitation.

On order

The FSRC has recently ordered the following publications:

Drying and storage of grains and oilseeds. 1992. Donald B. Brooker et al; Van Nostrum Reinhold.

Stored-grain ecosystems. 1992. Digvir S. Hayas et al.

Proceedings from University of Illinois Grain Quality Conference: Managing Moisture in Grains and Oilseeds, March 26-27, 1997, Urbana, Illinois.

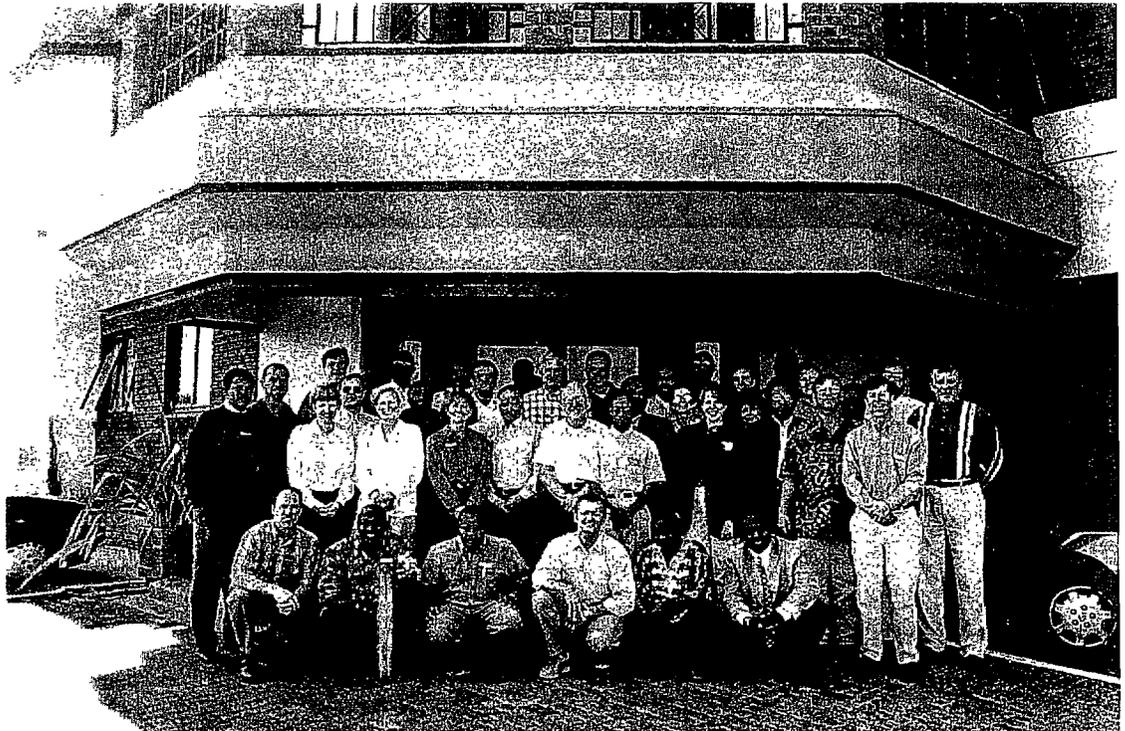
Analysis of the loss of seed quality at the warehouse of Nasir Poor. 1991. International Development Services, Ltd.; Development Alternatives, Inc.; USAID/Pakistan. [23]p.

If you would like copies of materials that appear on this bibliography, or if you have any questions regarding these resources or other topic areas, please contact

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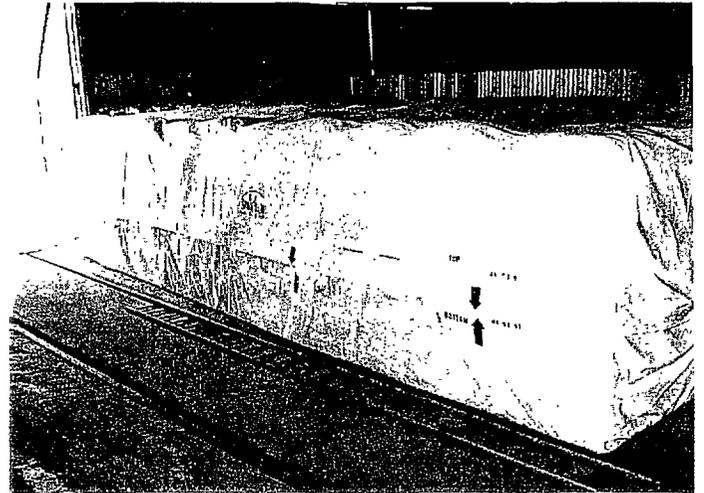
Participants in the Commodity Storage Loss Reduction Workshop Port-Au-Prince, Haiti



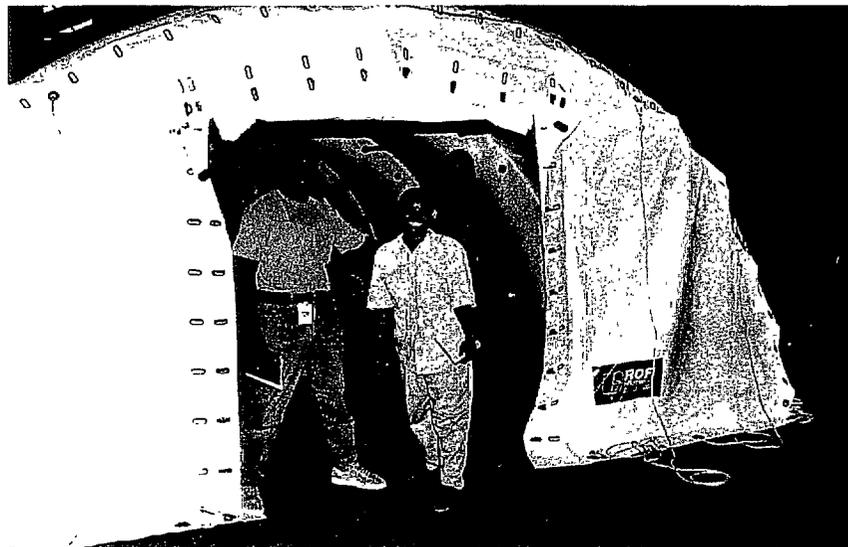
Participants in the Commodity Storage Loss Reduction Workshop Johannesburg, South Africa



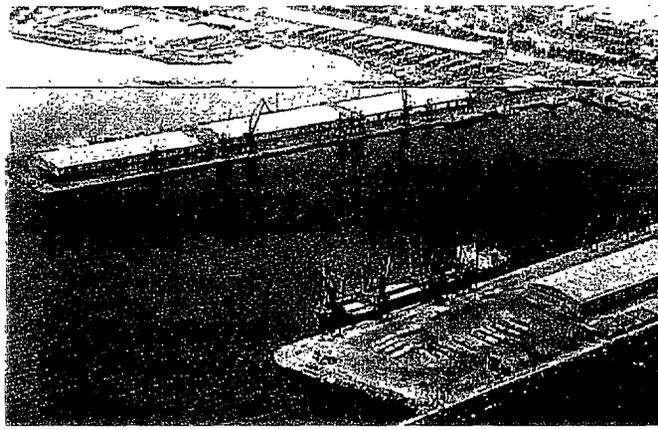
Joe Gerstle of CRS holding an example of a bag of rice that went onto the Bill-of-Lading marked as full as it arrives in Madagascar.



50 MT GrainPro cocoon filled with bagged commodities



CRS/Liberia staff modeling a Rofi Tent.



Port in Assab, Eritrea



WVRD staff with a cocoon holding food aid commodities in Angola



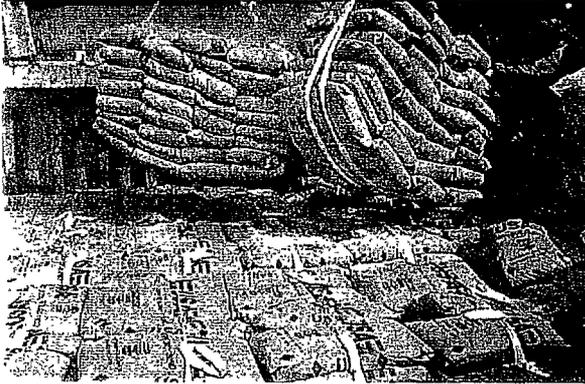
Post harvest sorting activity in Sudan



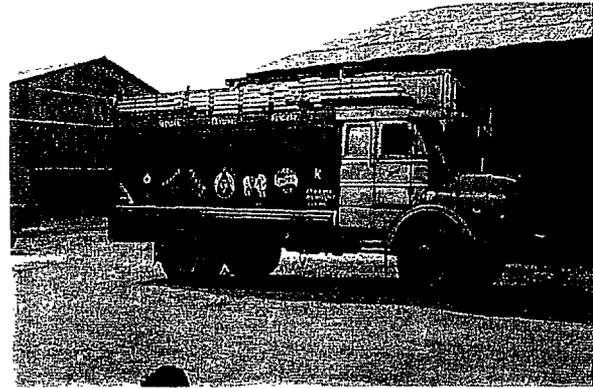
Bagging post harvest grain in Sudan



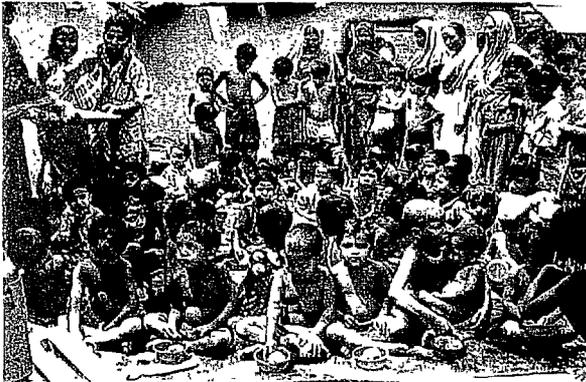
Spreader bar unloading pre-slung CSB, Waterman LASH Barge in Calcutta, India



An Example of pre-slung break bulk CSB



Typical transport truck Calcutta, India



Anganwadi Center West Bengal, India



A woman cooking CSB in an Anganwadi Center near Darjeling, India.

Photographs provided by CARE, CRS and WVRD