Baseline Data

Effective Seed Storage in Timor Leste Project (ESS)

Introduction

Mercy Corps' Effective Seed Storage in Timor Leste Project (ESS) is an 18-month initiative funded by the Office for Foreign Disaster Assistance (OFDA) of USAID and currently being implemented in Manufahi and Ainaro, two rural districts of Timor Leste. The overall goal of the project is the design and development of sustainable, scalable, farmer storage models in Timor Leste.

This ESS project complements a European Commission funded Sustainable Crop Production, Utilization, and Resource Management through Capacity Enhancement (SECURE) program with the overall objective to increase food security and incomes for vulnerable communities in Ainaro and Manufahi Districts. In August – September 2010, a baseline survey was conducted in the target districts of Ainaro and Manufahi to collect the baseline data against which the SECURE program outcomes and achievements will be measured, corresponding to the log-frame indicators for that program.

The baseline data presented here for ESS is extracted data from the SECURE baseline and corresponds to the two primary OFDA indicators of ESS, which are:

1. (projected) Increase in number of months of food self-sufficiency due to distributed seed systems/agricultural input for beneficiary families
2. Number of people benefiting from seed systems/agricultural input activities.

In addition, this baseline also provides valuable information about the status of beneficiaries, their current production and storage practices, which will contribute to program implementation.

SECURE Baseline Survey Methodology

The methodology for the baseline survey was developed in close coordination with program staff and included a combination of quantitative and qualitative data collection through: (i) individual household surveys and (ii) key informant interviews.

A total of 369 households participated in the survey, representing 7% of the total number of households in the target areas (5,272 households). This provided a margin of error of 4.9%, ensuring high reliability of survey data. Systematic random sampling was used to ensure the number of households surveyed in each aldeia (sub-village) was proportionate to the underlying population. Within each aldeia, houses were selected at random, though were chosen to ensure representation across the geographical area of the aldeia.

The key informant interviews were primarily intended to obtain information relating to the market system for the key crops. A total of 17 interviews were conducted where 9 interviews were held with traders/retailers (2 in Ainaro, 4 in Manufahi and 3 in Dili) and 8 interviews with farmers (3 in Ainaro and 5 in Manufahi); these were often conducted as small focus-group discussions, involving the aldeia or suco chief and sometimes several farmers.

Demographics

- **Home ownership:** 97% of surveyed households own their house outright.
- **Household asset ownership:** 68% of households own a telephone, and 41% own a radio. Very few households own either any transportation or television.

	Average household size
Sub-district	
Ainaro	5.7
HatoUdo	6.0
Same	6.1
Turiscai	6.7
All districts	**6.1**

Land Holding

- **Land cultivation:** On average, each household farms 1.8 hectares. There is significant variation between sub-districts; in Same the average is 2.2 hectares, whereas in Ainaro it is 1.4 hectares.
- **Land status:** Almost all farmers own their land plots outright as freeholds (97% of plots).

Crop Production

- **Rice:** There are a relatively low number of rice producers in target areas. 17% of survey respondents produce rice, though these are geographically concentrated in Ainaro district. Average volume of rice production per household is 1,222 kg per year. On average, 5% of rice production is sold by farmers, with over 75% used for their own consumption.
- **Corn:** 95% of households produce corn, highlighting the extent to which corn remains the key subsistence crop upon which farmers in the targeted areas depend. Corn production is 411 kg per year on average per household; production is significantly higher in Ainaro and Hato Udo sub-districts than in Same and Turiscai. Only 9% of corn produced by surveyed farmers is sold, with the majority used for consumption.
- **Coffee:** On average 40% of households engage in coffee production. However, the vast majority of coffee farmers are in Same and Turiscai (where 79% and 100% of farmers produce coffee respectively). On average, coffee farmers produce 624kg per year. Coffee is predominantly produced as a cash-crop; 85% of coffee produced by surveyed farmers was sold.
- **'Other' crops:** Over 75% of surveyed households produce beans, sweet potato and cassava. Less than 25% produce vegetables.
- **Fruit Crops:** Fruit production is extremely widespread; approximately 75% or more of farmers produce papaya, mango, jack fruit and candlenut.
- **Livestock ownership:** Over 80% of surveyed farmers own pigs and poultry. The survey suggests that very few farmers produce livestock for sale; for example on average chicken farmers own less than eight birds.

Harvest usage		
Usage	*Average usage of rice harvest (%)*	*Average usage of corn harvest (%)*
Consumption	75	73
Sale	10	7
Share-cropper	4	4
Loan paid	2	1
Animal feed	2	6
Seeds	7	8
Total	**100**	**100**

Production methods

- **Agricultural techniques:** Survey outcomes indicate a very basic level of agricultural practices in the target areas. For example only 30% of respondents use shifting cultivation, two-thirds rely entirely on hand cultivation and 73% do not use any water storage or conservation practices.
- **Seeds:** Hybrid seeds are used very infrequently by farmers in the target areas. For corn this is especially the case with over 96% of farmers using only traditional varieties of seeds. At least 85% of surveyed farmers source their seeds entirely from their own produce (seeds or ear heads). Only 8% buy seeds from the market.

Sourcing of seeds	
Source of seeds	*% of respondents*
Save seeds from produce	87%
Ear heads from standing crop	33%
Community seed bank	6%
Buy from market	8%
Agriculture department	1%
NGOs	1%

- **Coffee plantations:** Over 50% of all coffee plantations owned by surveyed farmers are more than 40 years old, posing a challenge in the coming years. Only 13% of surveyed farmers prune their coffee trees.

Food Storage

- **Storage containers:** The majority of farmers use rudimentary storage containers for their produce (sacks, smoking above kitchen, and hang in trees). For rice, 77% of farmers use these practices, while for corn 84% use rudimentary storage practices.
- **Post-harvest loss:** On average 9.2% of farmers' corn harvests are lost during storage. Harvest loss is significantly higher for those farmers that use sacks (10.1%) or storage in trees (11%) than for those that use silos (5.8%) or communal storage (3%). Post-harvest loss follows a similar pattern, but is on average significantly lower; across all storage practices an average of 2.9% of rice harvests are lost during storage.

ESS Project Indicators

No	Project Indicators	Sub Indicators	Baseline
1.	Number of months of food self-sufficiency	1.1 % of households not able to meet food needs	80%
		1.2 Average number of months of food self-sufficiency (including households with no food shortages)	2.7 months
		1.3 Average number of months of food self-sufficiency (only for households that experience food shortages)	3.9 months
2.	Number of people benefitting from seeds systems/agriculture inputs	2.1 Number of households using improved seed storage practices including access to alternative storage equipment	0
	Additional Mercy Corps indicators	3. # of improved storage designs	0
		4. # of local storage manufacturers trained	0
		5. # of trainings	0
		6. # of early adopters	0
		7. # of additional farmers with access to storage solutions	0
		8. % decrease in seed storage losses amongst pilot farmers	0
		9. # of farmers purchasing improved storage for seed	0
		10. # additional months maize is available in the household as a result of improved storage	0
		11. % increase in grain/seed sold by farmers as a result of new storage solutions	0