

The International Fund for Agricultural Development

TIMOR-LESTE
TIMOR-LESTE MAIZE STORAGE PROJECT
PROJECT DESIGN REPORT
PROJECT DESIGN REPORT AND ANNEXES

Asia and the Pacific Division
Programme Management Department

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CURRENCY EQUIVALENTS

Currency Unit = United States Dollar (\$)

WEIGHTS AND MEASURES

International metric system, unless specifically described in text; except:

1 acre (ac) = 0.4047 hectares (ha)
1 hectare = 2.47 acres

FISCAL YEAR

January 1 to December 31

ABBREVIATIONS AND ACRONYMS FOR PROJECT DESIGN REPORT AND ALL ANNEXES

ACIAR	Australian Centre for International Agriculture Research
AusAID	Australian Agency for International Development
AWPB	Annual Work Plan and Budget
CBO	Community-Based Organization
CBS	Cost-Based Selection
COSOP	Country Strategic Opportunities Paper
CRSP	Collaborative Research Support Programme (USAID)
DA	District Administrator
DC	District Coordinator
DC	Direct Contracting
DCO	District Coordination Office
DDC	Deputy District Coordinator
DDs	District Directors
DPs	Development Partners
EC	European Commission
ENRAP	Electronic Networking for Rural Asia/Pacific
ESRN	Environmental and Social Review Note
EU	European Union
FAO	Food and Agriculture Organization
FAOSTAT	FAO's Statistical Package
FCOs	Food Crops Officers
FO	Finance Officer
FSOs	Food Security Officers
FSU	Food Security Unit
GDP	Gross Domestic Product
GPS	Global Positioning System
GoTL	Government of Timor-Leste
GTZ	German Agency for Technical Cooperation
HDI	Human Development Index
HH/ hh	Household
ICB	International Competitive Bidding
ICR	Implementation Completion Report
IFAD	International Fund for Agricultural Development
ILO	International Labor Organization
IMC	Inter-Ministerial Committee
IMF	International Monetary Fund
INGO	International Non-Government Organization
IRRI	International Rice Research Institute
IS	International Shopping

JICA	Japanese Aid Programme
KFT	Key File Table
KM	Knowledge Management
KPI	Key Performance Indicator
LIFT	CARE's Local Initiatives for Food Security Transformation Project
LS	Local Shopping
MAF	Ministry of Agriculture and Fisheries
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
M&ES	Monitoring and Evaluation Specialist
MEF	Monitoring and Evaluation Framework
M&EO	Monitoring and Evaluation Officer
MoF	Ministry of Finance
MoI	Ministry of Infrastructure
MPR	Monthly Progress Report
Mt	Metric tonne (1,000 kg)
MTR	Mid-Term Reports
NFSC	National Food Security Committee
NCB	National Competitive Bidding
NDP	National Development Plan (replaced by National Strategic Plan in 2010)
NNGO	National Non-Government Organization
NP	National Priority
NGO	Non-Governmental Organisation
NZAid	New Zealand Aid
PF	Project Facilitator
PHLs	Post-Harvest Losses
PIA	Participatory Impact Assessment
PHSS	Post-Harvest Storage Specialist
PICS	Purdue Improved Cowpea Storage
PIM	Project Implementation Manual
PIP	Project Implementation Plan
P/LO	Procurement/ Logistics Officer
PM	Project Manager
PMU	Project Management Unit
PSC	Project Steering Committee
PY	Project Year
QC	Quality Control
QPR	Quarterly Progress Report
RDF	Rural Development Framework
RDPs	Rural Development Programmes – II, III and IV
RIMS	IFAD's Results and Impact Measurement System
SDA	Sub-District Administrator
SDC	Swiss Agency for Development and Cooperation
SDP	Strategic Development Plan (Prime Minister's National Development Plan)
SOE	Statement of Expenditure
SEOs	Suco Extension Officers
SoL I, II, III	Seeds of Life I, II and III
TLMSP	Timor-Leste Maize Storage Project
TLSLS	Timor-Leste Sustainable Livelihood Survey
TOR	Terms of Reference
UN	United Nations
UNFPA	United Nations Population Fund
UNMIT	United Nation's Mission in Timor
UNTAET	United Nations Transitional Administration in East Timor
UNTL	University of Timor Lorosae
USAID	United States Agency for International Development
\$	United States Dollar
WA	Withdrawal Application
WFP	World Food Programme
WP	Working Paper

TIMOR-LESTE MAIZE STORAGE PROJECT (TLMSP)

PROJECT DESIGN REPORT

Executive Summary

1. **Poverty and Rural Development Context.** Timor-Leste has a population of 1.07 million people with 70% living in rural areas. In 2007 nearly 50% of the population was living below the poverty line, divided 52% and 45% for rural and urban populations, respectively. Poverty is far more severe in the Central (58%) and Western Regions (55%), compared with the Eastern Region (27%). This situation reportedly improved during 2009 (World Bank) as economic activity remained strong due to Government of Timor-Leste (GoTL) spending. Recent estimates point to a possible decline in the poverty incidence from 50% to 41% between 2007 and 2009. However Timor-Leste's Human Development Index was 0.502 in 2010, a rank of 120 out of 169 countries. When adjusted for "inequality" the IHDI was 0.334, a decline of 33% between 2005 and 2010.

2. About 70% of the workforce is engaged in agriculture with the majority working on subsistence farms. Households commonly **experience** up to three months without sufficient rice or maize - the "hungry season". This deficiency is balanced by GoTL's importation and distribution of heavily subsidized rice. A quarter of all women and a half the children are malnourished, and poverty remains endemic. Low crop productivity, high on-farm grain storage losses, lack of infrastructure, and rapid population growth are major contributors to the food insecurity situation. Attempts to create an export-oriented economy have not yet succeeded, with the exception of petroleum products.

3. **Policy, Governance, Institutional, Political and Economic Issues.** Since the restoration of **independence** in 2002, Timor-Leste has made significant progress in creating the essential institutions of state. However the country faces many challenges including a non-oil economy which grew very slowly until 2009, when non-oil GDP growth spiked to 12.7% as GoTL expenditure increased considerably. Other issues include fragile security characterised by weakened social cohesion; high unemployment (particularly in urban areas and amongst young people); weak public and private sector capacity; and limited non-oil economic development opportunities. A sluggish economy and a high unemployment rate amongst youth is a security risk which threatens the process of democratisation and construction of a viable state.

4. Timor-Leste's agricultural policy is governed by: (i) the Prime Minister's (July 2011) Strategic Development Plan (SDP)¹; (ii) Axis 1 in the Rural Development Framework; (iii) MAF's 2004 Policy and **Strategic** Framework (still applicable); and (iv) the National Priorities for 2010. The policy objectives which are directly relevant to the Timor-Leste Maize Storage Project (TLMSP) are to: (i) improve the level of food security for the rural population and raise self-reliance; (ii) increase agricultural value-adding; (iii) contribute to the balance of trade by earning export revenue and by substituting imports; and (iv) increase incomes and employment in rural areas.

5. **Geographic Area of Intervention.** TLMSP will initially target the economically active poor (households which produce about 150kg of maize per year) in Aileu, (Year 1), Manufahi and Manatuto (Year 2), and Ainaro and Viqueque Districts (Year 3). These districts have been targeted because 67% of households live below the 2008 poverty line². The first four are in the Central Region where poverty is most concentrated and maize is a vital staple. The Project is expected to directly benefit about 60-65% of rural households in these districts (or 23,000 households).

6. **Target Groups.** The target group is poor by any standard and most are food-deficient for about three months of the year. Household size averages 5.8 persons. Maize yields are very low by regional standards; an average of about 1.4 Mt/ha but with many poorer households reporting yields as low as 0.5 Mt/ha. The **basis** of the target households' economic activity is subsistence farming with annual cash transactions of between \$100 and \$200 - very little produce is traded or sold. The fundamental cause of rural poverty is the overwhelming dependence on on-farm employment, with farms characterized by subsistence farming systems which have not changed for generations - very low crop productivity, and high on-farm losses of stored maize and other crops.

¹ This final version of the SDP replaces the draft version which was published in mid-2010.

² Applying the upper TLSLS poverty line (in 2007 dollars) of \$0.88 per person per day.

7. **Justification and Rationale.** A step-by-step, inclusive Project concept and design process which **follows** IFAD's and GoTL's guidelines has identified a simple and complementary agricultural development opportunity (i.e. maize storage in new 200L drums to avoid losses due to rodents and weevils³) which has the potential to substantially improve the food security situation of poor and hungry families in Timor-Leste's upland farming zone.

8. The development hypothesis is underpinned by a set of unique design features: (i) avoidance of design "complexity" – the objective is focused and targeted on one major national issue; (ii) a focus on a low-risk and well-proven intervention (drums for maize storage) which has the potential to generate immediate impacts; (iii) selection of a simple technology which is culturally acceptable (drums have been used for maize storage in some areas of Timor-Leste for 25 years); (iv) the selected development intervention is highly complementary with Seeds of Life Phase III which distributes Sele, an improved maize variety which results in a 40% increase in yield; (v) building on and up-scaling past NGO experience with the importation and distribution of 200L petroleum drums; and (vi) use of existing and accepted participatory and community-based mechanisms for drum delivery.

9. The Project supports GoTL's objective of food self-sufficiency and IFAD's Strategic Framework (2011-2015). TLMSP as planned is aligned with IFAD's overarching goal that rural women and men in developing countries are empowered to achieve higher incomes and improved food security at the household level. The Project also supports MAF's draft National Policy on On-Farm Storage of Maize and Paddy, which states "... *development partners cooperate in the procurement and distribution of adequate airtight containers (drums) to securely store stock of seeds and food, in combination with the provision of seed of higher-yielding varieties.*

10. Achievement of TLMSP's goal will ultimately also contribute to GoTL's broader poverty reduction objectives by: (i) reducing the need to import food (mainly rice) to cover national food deficits; and (ii) in the longer-term result in firstly improved upland food self-sufficiency and therefore reduced expenditure on food; and secondly increased market sales of surplus maize. By focusing on Timor-Leste's major social issue (upland hunger and poverty), TLMSP's contribution to the nation's growth and development will be considerable given its potential to impact on all upland farming households over a period of about 13 years (assuming two subsequent five-year phases).

11. **Ownership, Harmonisation and Alignment.** The Project concept has been endorsed by GoTL and all potential partners, particularly the Ministry of Agriculture and Fisheries (MAF), and district governments and local community networks – the latter will be used as the drum distribution network. TLMSP will build on important NGO partnerships (Drums on Farms and Care International) and complement the country's largest development initiative for food production (Seeds of Life III; A\$27.5 million, five years and 12 rural districts).

12. The **goal** is "improved food security for maize growing households in Timor-Leste", and the development **objective** is "reduced losses of maize stored on-farm". The objective will be pursued through the implementation of the following activities:

- 1 **Outcome 1.** New 200L maize storage drums procured and/ or manufactured locally. Drums will be imported for the first phase (42,000 drums over three years) whilst at the same time local (private sector) drum manufacture is investigated through an R&D programme which focuses on alternative drum/ container designs, in-field testing of prototypes, and business development feasibility studies on developing local drum manufacturing capacity.
- 2 **Outcome 2.** Maize storage drums distributed and used effectively will be achieved through: (i) training Project-appointed Project Facilitators in community organization skills and drum delivery/ use; (ii) targeting and preparing households (eligibility, preparedness to use drums for maize storage, and willingness to pay a co-contribution of \$10 per drum); (iii) preparation of district, sub-district, suco and aldeia drum delivery and distribution plans; (iv) drum distribution in time for the next maize harvest, and the collection of recipients' co-contributions; (v) training in drum use and maintenance; (vi) piloting drum distribution through commercial agents in district markets; and (vii) drum distribution through existing NGO networks. Twenty three thousand households will be assisted over three years.

³ Local "estimates" of maize storage losses are as high as 30%-70% but this figure cannot be substantiated. TLMSP is therefore based on a conservative loss figure of 15% - Working Paper 3.

- 3 **Outcome 3. Efficient Project management and coordination**, through: (i) the establishment and operation of a Project Management Unit (PMU) in MAF's Dili complex; (ii) the design and operation of an M&E Framework; and (iii) the appointment and training of District Coordinators, Deputy District Coordinators and Project Facilitators. The PMU will consist of a Project Manager (international); and Finance Officer, Procurement/ Logistics Officer, and Monitoring and Evaluation Officer (national appointments). The PMU will be supported by a short-term international Post-harvest Storage Specialist and a national Monitoring and Evaluation Specialist. Project monitoring will encompass: (i) baseline and follow-up household surveys on maize storage losses; (ii) periodic assessment of on-farm maize storage practices; and (iii) periodic assessment of drum use. Participatory impact assessment will be an important tool for ascertaining beneficiaries' views on Project performance and results.
- 4 **Costs and Financing.** Total cost over three years is estimated to be \$5.58 million including physical and price contingencies. The foreign exchange element is estimated to be \$2.90 million (excluding contingencies) or 59% of base costs, reflecting the high proportion of funds which will be used to import drums. Base components costs will be \$2.15 million (43%), \$1.03 million (21%) and \$1.77 million (36%) for Components 1, 2 and 3, respectively. GoTL, IFAD and beneficiaries will fund \$0.15 million (2.8%), \$4.94 million (88.6%) and \$0.48 million (8.6%) of total costs, including contingencies. GoTL will finance the tax and duty element of all expenditure, and will also be making an in-kind contribution in the form of time committed by GoTL staff which has not been costed. Beneficiaries will be required to make co-payments of \$10 per drum, equal to about 20% of the farmgate price of a 200L drum. IFAD will provide grant financing for all other Project cost elements.
- 5 **Organization and Management.** IFAD will negotiate the Grant with GoTL's Ministry of Finance which will appoint the Ministry of Agriculture and Fisheries (MAF) as the Lead Agency. TLMSP's Project Management Unit (staffed with a Project Manager, Finance Officer, and Procurement/ Logistics Office) will be embedded in MAF's Dili complex, and will work out of MAF's District Offices if practical in terms of office space and drum storage facilities. The main field-level operatives will be: (i) the Suco Councils, and Suco Chiefs and Aldeia Chiefs, who will be responsible for the community organization activities; and (ii) the Project Facilitators who will be the key field-level implementers (organizing pre- and post-drum delivery activities) with support from the Project's District and Deputy District Coordinators. A Project Steering Committee will provide overall Project direction and guidance. The Committee will be responsible for: (i) coordinating the provision of Government support (national and district levels); (ii) coordinating Project activities with Government programmes; and (iii) providing policy support.
- 6 **Risks.** The basis for the design is proven, simple and widely acceptable technology; and implementation will be through a proven mechanism (district governments and local community structures). However there are two country-specific risks: (i) that peace and civil order are maintained (an election is due in 2012); and (ii) the current agricultural development policy is skewed towards the irrigated rice sub-sector, at the expense of the maize-dominant rainfed sub-sector. Project-specific risks which are considered to be manageable include: (i) there will need to be a large international supply of new 200L drums available at acceptable prices; (ii) the Project is a large procurement/ manufacture and distribution exercise and therefore procurement/ shipment/ port clearance/ and distribution channels will need to be efficient; (iii) local drum manufacturers will need to be able to raise additional investment funds if they are to produce the quantities of drums required for a national roll-out; (iv) drum delivery to the suco-level by small trucks will require trafficable rural roads; and (vi) there will need to be sufficient skilled District Coordinators and Project Facilitators available to work with the Project.
- 7 **Financial/ Economic Viability.** TLMSP will be financially and economically viable. Investment in drums for storage generates a FIRR of 56% for all models, with the full cost of the drum/s accounted for. This demonstrates that it should be possible for farmers to purchase additional drums, provided they can save (or borrow capital against) incremental cash flows. If drum costs are reduced by \$5 per unit the FIRR increases to 67%; and to 83% if drum costs are reduced by \$10 per unit
- 8 The Project has the capacity to generate an EIRR of 16%. The EIRR is sensitive to the key assumption related to the percentage of maize lost when stored under traditional systems. If the loss figure is increased from 15% to 20%, the EIRR (excluding secondary benefits) increases to

22%, and to 24% if secondary benefits are included. The corresponding EIRRs for a 25% maize loss are 29% and 31%, respectively.

- 9 **Subsidies.** The Project will pay a subsidy of about \$40 per 200L drum. A subsidy of this size is reasonable as target households will be making cash contributions of \$10 per drum. This cost may not appear to be significant but GoTL currently provides all types of rural development support free-of-charge, so a contribution of 20% of the cost of a drum is an “innovation” in terms of encouraging Timor-Leste’s rural population to become a little more independent of GoTL subsidies.
- 10 **Sustainability.** The design includes key measures to promote long-term sustainability, including: (i) selection and promotion of a simple development intervention which is technically, socially and financially viable (farmers have been using drums for at least 25 years); (ii) support to kick-start financially viable (un-subsidized) in-country drum manufacture and distribution through local market channels; (iii) consideration of initial drum importation in knock-down form (to reduce drum prices); (iv) detailed, step-by-step plans for community engagement and support activities which will foster widespread drum use; and (v) a close partnership with Seeds of Life to ensure full expression of the strong complementarity between this Programme and TLMSP.
- 11 **Scaling-up.** As designed, TLMSP is eminently suitable for scaling-up into subsequent phases which would eventually result in all maize growers in Timor-Leste having access to sufficient 200L drums to enable safe storage of about 130,000 Mt of maize. Phase I will develop the “drivers” needed for scaling-up, e.g. leadership in MAF and local champions in the form of Suco Councils and Chiefs who will be experienced in organizing communities for drum delivery. The “spaces” required, e.g. political and policy, will also be developed; and the “pathways” for scaled-up implementation will have been tested and refined. In addition, other development partners (such as AusAID and the World Bank) have expressed interest in involvement in the TLMSP and potential follow-on phases.

Logical Framework

Results Hierarchy	Indicators	Means of Verification	Assumptions
Goal: Improved food security for maize-growing households in Timor-Leste	<ul style="list-style-type: none"> Percent improvement in HH food security due to increased on-farm supplies of maize, initially after harvest and then in the “hungry season”. *No. of HHs with improved food security. *No. of HHs showing improvement in IFAD’s HH asset ownership index. *Percent reduction in the prevalence of child malnutrition. 	<ul style="list-style-type: none"> Assessed reduction in storage losses due to Project (from survey reports), as a % of total HH food requirements (from TLSLS reports). Drum distribution records. Project survey. Secondary data from WFP and UNICEF <p><u>Goal-level indicators reported at beginning and end of Project.</u></p>	<ul style="list-style-type: none"> Peace and civil order are maintained. No major changes in MAF’s agricultural development policy and strategies.
Development Objective: Reduced losses of maize stored on-farm	<ul style="list-style-type: none"> On-farm storage losses reduced from 15% to less than 1% (cumulative weight loss basis) for households adopting improved storage techniques. 	<ul style="list-style-type: none"> Baseline survey report on extent of maize losses under traditional storage systems. Drum use monitoring program reports. Participatory Impact Assessments. <p><u>Development objective-level indicators reported annually.</u></p>	<ul style="list-style-type: none"> Farmers are willing to move away from traditional storage practices. Recommended on-farm maize storage technology (drums) is acceptable/ affordable to target rural households.
Output 1: Maize storage drums procured and/or manufactured locally: <ul style="list-style-type: none"> (i) New 100L and 200L drums imported (ii) 100L and 200L drums locally manufactured (probably Phase II) (iii) R&D on alternative drum designs and business development studies (local drum manufacture) completed 	<ul style="list-style-type: none"> 42,000 new 200L drums imported by end of PY2. At least one design for a locally-manufactured alternative drum successfully developed and field tested by the end of PY3. Options for local manufacture assessed, private sector partner/s identified, and business development plan completed by the end PY3. 	<ul style="list-style-type: none"> AWPBs. Six-monthly Progress Reports. R&D reports. 	<ul style="list-style-type: none"> An adequate number of new drums can be imported, for a reasonable price No serious importation difficulties/delays - GoTL is able to facilitate drum import and clearance No major technical difficulties with local drum manufacture. Funds for expanded local drum manufacturing businesses are available.

<p>Output 2: Maize storage drums distributed and used effectively:</p> <ul style="list-style-type: none"> (i) Target HHs identified and organized (ii) Drum distribution plans prepared (iii) Drums distributed, and co-contributions collected (iv) Drum use promoted and farmers trained (v) Drum distribution through private sector piloted (vi) Drums distributed through NGO network 	<ul style="list-style-type: none"> • 23,000 poorer maize-growing HHs identified, provided with drums and trained in drum use. • Drums being fully utilized for maize storage. • Drum use guidelines being closely followed by most HHs. • Five drum agents in district markets identified and trained, by end PY2. • 500 drums sold by drum agents by end PY3. • 10% of purchased drums distributed through NGOs (year by year) • *No. of HHs receiving Project services. 	<ul style="list-style-type: none"> • AWPBs. • Six-monthly Progress Reports. • Drum use monitoring program reports. • Participatory Impact Assessments. 	<ul style="list-style-type: none"> • Use of local government and community structures, and staff, to assist with drum targeting and distribution is efficient. • Transport infrastructure and services are maintained at a level sufficient to allow timely shipment of drums from Dili to target Sucos. • Required number of suitably qualified District Coordinators and Project Facilitators can be recruited. • Suitable mechanism for safely depositing drum co-payments can be identified.
<p>Output 3: Efficient Project management and coordination:</p> <ul style="list-style-type: none"> (i) PMU established and operational (ii) DCOs established and operational (iii) M&E system designed and operational 	<ul style="list-style-type: none"> • PMU and DCOs established and operational. • Implementation on schedule. • Implementation performance and outcomes being regularly assessed. • IFAD satisfied with results. • Other stakeholders (communities, partner NGOs, district government) satisfied with results. 	<ul style="list-style-type: none"> • Annual Reports. • M&E reports. • Supervision Mission Reports • Project Completion Report. • Participatory Impact Assessments. 	<ul style="list-style-type: none"> • Adequate resources are allocated to Project management and M&E in timely fashion. • Strong partnerships between Project contractor, IFAD and MoF can be developed

* Denotes mandatory RIMS indicators.

I. STRATEGIC CONTEXT AND RATIONAL

A. COUNTRY, RURAL DEVELOPMENT AND POVERTY CONTEXT

Country and Rural Poverty Context (Annex 1, Working Paper 1)

1. Timor-Leste⁴ is an isolated agrarian country covering 15,000 km², with 1.07 million inhabitants. The rural areas are mountainous, prone to soil erosion and land degradation, and produce very low yields of rice, maize, roots and tubers. Timor-Leste's population is one of the poorest in the world and upland farming households survive on basic subsistent farming systems whilst irrigated rice farmers are better-off due to Government of Timor-Leste (GoTL) support programmes funded by new inflows from oil. Poverty is endemic and in 2007 (last thorough national poverty survey) nearly 50% of the population was living below a poverty line of \$0.88 per day. Timor-Leste's 2010 Human Development Index (HDI) was 0.502, a rank of 120 out of 169 countries, but when adjusted for "inequality" the IHDl was only 0.334, a decline of 33% between 2005 and 2010.

2. Since the restoration of independence in 2002 Timor-Leste has made good progress in creating the institutions of state essential for running the country's economy. However on several other fronts Timor-Leste has many challenges to address, most of which are structural in nature. The main problems include: (i) a stagnating non-oil economy, growing at 2.5% per annum; (ii) fragile but improving security characterised by weak social cohesion; (iii) high unemployment, particularly in urban areas and amongst young people; (iv) a large public sector with a weak customer service focus; and (v) a stagnant private sector which is dependent on public sector contracts. A sluggish economy with high youth unemployment is a security risk which threatens the process of democratisation and the construction of a viable state.

3. Timor-Leste's non-oil GDP grew at a compound rate of 4.6% between 2000 and 2007. Over the same period, agricultural GDP (which is about 30% of non-oil GDP) grew by only 2.9%. This growth was due mainly to an expansion of the commercial sector which grew from 17% to 27% of total agricultural GDP. However the food sector which represents about 75% of agricultural GDP has not registered any real growth over the seven-year period. With limited prospects for private investment, GoTL spending is the main source of economic growth in the short-term. However with petroleum revenues increasing, the state is no longer as constrained as previously in terms of public investment and spending.

4. According to the World Bank⁵, this scenario improved in 2009 as economic activity remained strong on the back of GoTL spending, although inflation has risen due to higher food prices. Recent estimates (not a national survey) point to a possible drop in poverty incidence (from 50% to 41%) in 2009 compared with 2007, when poverty spiked following economic contraction in 2006. GoTL estimated that non-oil GDP growth in 2009 was 12.7% at a time when GoTL expenditure increased by about 20% and capital expenditure by 38%. In terms of the rural sector, the World Bank notes that an extended rainy season in 2010 adversely impacted on agricultural production after a strong performance in 2009.

5. Timor-Leste is passing through a demographic transition of unprecedented proportions. The population is now 1.07 million (2010 census) with three-quarters living in rural areas. With an annual population growth rate of 2.4%, the population is expected to nearly double in about 30 years. Malnutrition and preventable diseases contribute to under-five mortality rates as high as 130 per thousand and maternal mortality is 600 per 100,000 live births. Some 54% of the rural population is younger than 19 years of age. The private sector is only able to provide about 400 new jobs per annum, leaving a shortfall of between 12,000 and 15,000 jobs to accommodate new entrants into the labour market. This is pushing unemployment higher - 23% in Dili and 40% in rural areas.

6. Between 2000 and 2006 total food crop production varied from 209,000 Mt to 243,000 Mt (and averaged 230,000 Mt) but then declined to 199,000 Mt in 2007 due to the poor security situation. However the Ministry of Agriculture and Fisheries (MAF) recently reported substantial increases in food crop production; 56,200 Mt of rice, and 161,400 Mt of maize and mixed roots and tubers in 2009. Whilst impressive, if these figures are correct there would have been no need to import rice in 2010.

⁴ Much of section is based on: The World Bank's 2009 report on Agricultural Productivity in Timor-Leste.

⁵ World Bank East Asia and Pacific Economic Update 2010, Vol.2.

Non-rice food production in 2010 was about 160,000 Mt with a food deficit of about 55,000 Mt, hence China's offer to donate 50,000 Mt of rice in 2011.

7. Maize and root crops are the most widely consumed foods in rural areas. However since the introduction of rice cultivation during the Indonesian occupation the consumption of rice has increased. Many families in rural areas still rely on harvesting fruit and vegetables in the wild for consumption during the "hungry season". Maize is the single most important crop, accounting for 36% of production, followed by rice (25%), cassava (21%) and sweet potato (18%). Non-rice crops account for at least 75% of staple food production. Timor-Leste's farmers grow a wide range of crops and very few are specialists - rice is only grown by 31% of farmers, whereas 34% of households grow coffee and nearly 70% grow maize and mixed roots and tubers⁶. The various associations between crops have implications for development interventions which aim to increase crop production and rural incomes. For example, rice growers are also important maize and cassava growers irrespective of whether rice is an important crop or not. This industry structure has important implications in terms of where agricultural development resources should be focussed.

8. Food security (defined as sufficient household food supplies grown on-farm) has worsened in rural areas, and on average rural households suffer up to three months without sufficient rice or maize - the "hungry season". Moreover a quarter of all women and a half of all children are malnourished. Poverty is endemic and is much higher in rural areas (46% of households) compared with urban areas (26% of households).

Policy and Institutional Issues Related to Poverty Reduction

9. Timor-Leste's agricultural policy and strategy framework are governed by three key documents and one national priority: (i) the Prime Minister's (July 2011) Strategic Development Plan (SDP)⁷; (ii) Axis 1 in the Rural Development Framework; (iii) MAF's 2004 Policy and Strategic Framework (still applicable); and (iv) Timor-Leste's National Priorities for 2010. The initial design of TLMSP (in late 2010) was guided by MAF's 2004 Policy and Strategic Framework which spells out the sector objectives and implementation strategies. The policy objectives which are directly relevant to TLMSP are to: (i) improve the level of food security of the rural population and raise self-reliance; (ii) increase value-adding of agriculture, forestry and fisheries; (iii) contribute to the balance of trade by earning revenue from exports and by substituting imports; and (iv) increase incomes and employment in rural areas.

10. In April 2010 the Prime Minister announced that "there are at least three strategic sectors for economic growth in the coming two decades: agriculture, petroleum and tourism". The focus on agriculture is highlighted by the following extracts from the draft SDP: *"The agriculture sector employs around two-thirds⁸ of the economically active population... The sector is remarkably promising, but in the past has underperformed. There is enormous potential in several areas: staple crops,.... Traditionally, Timor-Leste relied on low-input, subsistence methods.... The problem has been the lack of improved inputs....., reflected in the level of poverty of smallholder farm households.... Timor-Leste is now ripe for a Timor Green Revolution, in which the government works with smallholder farmers to increase the use of inputs through..... modern technologies and the benefits of cutting-edge research"*.

11. The final version of the SDP launched by the Prime Minister in July 2011 retains this strong focus on the Nation's agriculture sector... *"to achieve our primary goal of food security by 2020 and to expand our agriculture sector, we will improve our farming practices and take action to boost the production of specific crops"..... and "establish on-farm grain storage"*. These statements endorse TLMSP's focus and confirm GoTL's priority for improved on-farm maize storage.

Constraints to Agricultural Development (Working Paper 1)

12. Agriculture is the most important sector of Timor-Leste's economy employing about 70% of the workforce. All farmers are smallholders (less than 1ha per family) who eke out a very poor subsistence living by growing irrigated rice, rainfed upland maize, and root/tuber crops with mixed vegetables. Coffee is the only major cash crop, with annual exports valued at about \$15 million. Productivity of the major crops is extremely low and yields are only 20%-35% of the levels achieved in comparable countries.

⁶ Cassava, sweet potato, yams, taro and *kontas*.

⁷ This version of the SDP replaces the draft published in mid-2010.

⁸ Estimates vary from 67% to 75%, but the 2010 census reported a figure of about 70%.

13. The valley-based irrigation farming system, which MAF has prioritized (and invested about \$30 million in 2009/10) is constrained by unreliable supplies of irrigation water and inefficient water distribution systems. Despite ongoing issues related to irrigated rice production (low FIRR and EIRR) MAF is preparing a US\$21 million budget submission for 2011 to cover new investment in irrigation and additional mechanization. At the same time it seems that MAF's non-irrigation and general operational budget for 2011 will decline.

14. The upland, rainfed maize farming system is constrained by: (i) shallow and infertile soils, some of which have been cropped for centuries without the addition/ recycling of organic matter or inorganic fertilizer; (ii) very poor road access to inputs, services and markets; (iii) difficult topography which limits access to farm plots; (iv) erratic rainfall, localised flooding, and strong winds which damage crops; (v) family labour constraints (mainly for weeding); and (vi) until the recent release of improved crop varieties, a reliance on traditional lower-yielding varieties. In addition to high post-harvest losses of stored grain, other causes of very low rainfed crop productivity are: (i) rapidly deteriorating environmental conditions; (ii) years of civil unrest which have led to the under-mining of trust; (iii) weak rural development capacity; and (iv) poor budgeting quality - allocating resources to sectors/ areas which do not generate the highest economic rates return, and benefit the largest number of poor rural households.

15. High storage losses exacerbate Timor-Leste's low food production. It has been "estimated:" that about 30% or more of stored maize is lost to rodent and weevil damage associated with traditional storage of maize in trees or in farmers' houses above their fires. However there are no reliable, measured estimates of maize storage losses. By using a more conservative cumulative loss figure of 15% (explained in Working Paper 3) it is estimated that these losses equate to about 31,250 Mt of maize each year, valued at about \$560/Mt (Working Paper 6) and are equal to an **annual national cost of about \$17.5 million**.

Opportunities for Agricultural Development (food crops)

16. This section focuses only on opportunities to increase the production of maize which is the main upland cereal grown by about 70% of rural households. In addition most rice growers also grow some upland maize as an "insurance policy" in case of rice crop failures. There are many opportunities to increase maize production so this section only outlines those considered to be the most important in terms of potential impact on the sector.

- (i) Improve MAF's services to the upland maize-dominant sector. MAF has about 440 Suco Extension Officers (SEOs) in all sucos but services are constrained by lack of extension and technical skills, and operating budgets. The forthcoming EC-funded Rural Development Programme IV (RDP IV) will address the first two constraints but MAF's operating budget is under pressure after recent large capital expenditures on irrigation and mechanization.
- (ii) Bring un-cultivated land into production. Most districts have "sleeping land" with unrealized production potential. This could be released through development programmes which focus on Timor-Leste's relatively vast upland rainfed areas, provided the production systems are based on sound agricultural conservation techniques and the control of weeds.
- (iii) Reduce maize storage losses (12% [minimum] and probably 15%, Working Paper 3) by improving on-farm storage systems through the nation-wide rollout of the proven and widely acceptable use of 200L storage drums. Each year upland farming families report large food and seed losses of maize stored under traditional systems, whereas maize stored in 200L drums can last for at least two years provided the drum remains airtight. TLMSD intends to focus on this simple development intervention.

In addition, the distribution of small tools to maize-growing families (such as maize shellers) could have a positive impact on the quantities of maize grown and stored. This is because these tools could overcome a possible labour constraint caused by shelling being concentrated in one period of the year (at the time of harvest) rather than spread throughout the year as is the case with traditional storage systems.

- (iv) New food crop varieties and improved cropping systems. Timor-Leste has, until recently, relied on old rice and maize varieties which were introduced by the Indonesians more than 20 years ago. However, the AusAID/ ACIAR-funded Seeds of Life (SoL) Programme has introduced, tested and released new varieties of all major food crops which have the potential to increase production from 25% for rice to 50% for maize (Sele variety) and

80% for sweet potato and cassava, without any changes to farming systems. Furthermore when Sele is grown by farmers with access to improved on-farm maize storage (which also gives incentive for farmers to adopt higher yielding varieties), complementarity between two these interventions means that net maize production can be increased by 70%, a huge gain for families which commonly face a three-month “hungry season”. The combination of SoL and TLMSP will mean that SoL can focus on selecting maize varieties which are even higher-yielding than Sele but which are not necessarily so weevil-tolerant. This complementarity between SoL and TLMSP has the potential to revolutionize maize production in Timor-Leste and their combined outcomes could be the “circuit breaker” which is needed to kick-start Timor-Leste’s commercial maize sector.

Critical Issues Emerging from Rural Poverty Analysis (Annex 2, Working Paper 2)

17. Trends in Timor-Leste’s HDIs support the conclusion that progress in reducing poverty has been limited, disappointing and frustrating for GoTL and its supporting development partners⁹. Progress towards the Millennium Development Goals (MDGs) remains mixed and access to assets, services and opportunities unequal within the population. In terms of tackling entrenched poverty there has been little improvement for the poorest in Timor-Leste, generally those who have little or no education and who work in agriculture. Widows and orphans of the resistance, as well as veterans and former child soldiers are also disadvantaged. This situation makes the task of meeting Timor-Leste’s 2004 MDG targets even more challenging.

18. The Timor-Leste Sustainable Livelihoods Survey (TLSLS) completed by the World Bank in 2007 revealed that nearly 50% of the population was living below the poverty line (\$0.88 per day) - split 52% and 45% for rural and urban populations. Poverty increased significantly between 2001 and 2007. This increase was accounted for by a decline in average consumption, with the incidence of food poverty also increasing. Across regions, poverty also increased significantly both in the Center and the West. However, more recently the World Bank reported a possible 9% decline in poverty between 2007 and 2009, down to 41% of the population. The fall was attributed *“in part to the fact that the poverty incidence spiked in 2007 because of the combined effects of civil unrest and lower agricultural production. It is also due to high rates of economic growth in the post-2007 period, including increased consumption.”*

19. About three-quarters of the poor live in rural areas, and a quarter in urban areas. By region, the Central Region accounts for two-thirds of the poor, significantly higher than its 56% share of population. The West accounts for 23% of the poor, not very different from its 21% share of population. The East, by contrast, accounts for only 12.5% of the poor, which is only half of its 24% share of population. Therefore poverty alleviation efforts need to focus on rural areas and the Central Region in particular.

20. Food dominates the populations’ consumption patterns, accounting for two-thirds of total consumption. Rural food shares are significantly higher than those for the urban population (69% compared with 59%). The consumption pattern of the poor is even more dominated by food which accounts for 70% of their total consumption. If rent is excluded, food accounts for 81% of the consumption of the poor who spend little on anything else. GoTL’s rice policy is based on investment in irrigation and on importing rice which is (supposedly) sold at a maximum retail price of \$0.34/kg¹⁰. This is a consumption subsidy which in the absence of product differentiation implies a very low market price for rice. Data from TLSLS (2007) indicate that about 75% of the rice consumed in Timor-Leste is imported.

21. According to the TLSLS data, female-headed households account for about 10% of the population, and about the same proportion in urban and rural areas. At the national level the incidence of poverty for female-headed households (44%) is lower than that for male-headed households (51%). In rural areas the same applies; 52% of male-headed households live in poverty compared with 43% of female-headed households. For the country as a whole, female-headed households account for about 9% of the total poor compared with 8% of the rural poor and 10% of the urban poor.

⁹ Largely drawn from TLSLS 2007 – “Poverty in a Young Nation”, and the World Bank’s 2009 report on Agricultural Productivity in Timor-Leste, which contains an assessment of rural poverty.

¹⁰ During the design, evidence was found of much higher rice (and maize) prices (nearly \$1.00/kg) in the poorer and more remote areas of Timor-Leste in late 2010.

22. The lower incidence of poverty amongst female-headed households may be a result of these households being smaller than those headed by males. In 2007 the average female-headed household had 3.9 members compared with 5.8 in male-headed households. In addition female-headed households had fewer children under 15 as well as lower child-dependency ratios. However when household sizes are adjusted, female-headed households tend to be poorer than male-headed households. Consistent with the pattern widely observed in many countries, poverty increases with household size, e.g. for a household size of six people, the poverty incidence for male-headed households is 53% compared with 61% of female-headed households. More importantly the adjusted figures show that for any given household size, the incidence of poverty is higher for female-headed households.

23. Three of the four major rice-growing districts have the lowest levels of poverty. The poor grow less rice, but this does not mean that programmes to support rice production will necessarily benefit the poor because they generally live in areas which are not suitable for irrigation (lack of irrigation water and unsuitable soil types). Therefore other food security and poverty reduction strategies need to be pursued if the population which lives in the upland rainfed areas is to experience improved livelihoods.

24. The recurrence of shocks frustrates attempts to escape rural poverty, the most common of which are weather-related such as crop failures. Illness and injury are also very common, as are shocks associated with the death of family members, reflecting poor nutrition and lack of access to health services. Shocks often force households to sell assets, thereby undermining their ability to engage in productive activities. As a result, poor households have to adopt costly coping strategies such as selling assets, withdrawing children from school, and reducing food consumption.

Targeting and Gender Analysis (Annex 2, Working Paper 4)

25. Analysis of the status of farmers living in poverty and suffering from food insecurity revealed that “economically active” poor households (and those in this group who survive on maize) are the potential target group which could benefit most from improved maize storage practices. These families are the proposed target for TLMSP. Despite knowledge of improved maize storage options, upland farming households do not use maize storage technologies simply because there is no availability, or are prohibitively expensive.

26. Food storage in Timor-Leste is a family-led decision in which both women and men are involved. While women take primary responsibility for food preparation and consumption allocation amongst family members, many agricultural tasks (i.e. maize storage) are joint responsibilities. These conclusions are reflected in MAF’s gender policy which supports the joint participation of women and men in food security management training. TLMSP is thus in line with GoTL policy with its objective of transferring improved food storage technologies to rural women and men. The appropriateness of drum technology for maize storage was confirmed through interviews with households who have prior experience with maize storage drums. Interviews also confirmed that male family members usually assist women to open drums to access stored maize.

27. TLMSP’s targeting strategy places emphasis on demand-driven interventions to ensure that poor rural farmers have the opportunity to benefit from and participate in Project-supported activities. The principal targeting mechanisms include: (i) geographic targeting; (ii) target group selection; (iii) direct targeting; and (iv) other targeting measures such as: (a) enabling measures; (b) empowerment measures; (c) self-targeting measures; and (d) monitoring and evaluation.

B. RATIONALE

28. **IFAD does not have any agricultural development programmes in Timor-Leste** even though the country’s rural sector remains one of the poorest in the world. However a careful, step-by-step, inclusive and policy/ strategy-compliant Project concept and design process which follows IFAD’s and GoTL’s guidelines has identified a uniquely simple and complementary agricultural development opportunity (maize storage in new 200L drums) which has the potential to eventually change the lives of 100,000 poor and hungry rural families in Timor-Leste’s upland farming zone – this is TLMSP.

29. **The development hypothesis** (that on-farm storage of maize in 200L drums will contribute to improved upland food security) is underpinned by a set of Project design features which make TLMSP unique in the history of agricultural development in Timor-Leste. These include: (i) avoidance of “complexity” in the design – the objective is focused and targeted on a major single national issue and

avoids the temptation to add on complementary activities; (ii) a focus on a low-risk and well-proven intervention (drums for maize storage) which has the potential to generate high and immediate impacts; (iii) selection of a simple technology which is culturally acceptable (drums have been used for maize storage in Timor-Leste for at least 25 years) - the major constraint is limited supplies of drums; (iv) the selected development intervention is highly complementary with other projects, in particular SoL; (v) learning from Care International's experience with the importation of 6,000 200L used and cleaned petroleum drums, and Drums on Farms' (NGO) experiences; and (vi) use of existing and accepted participatory mechanisms for delivery. TLMSP will work through GoTL's decentralized district government and MAF administrations, and local community structures, to socialize, promote and organize the delivery of maize storage drums, and does not duplicate existing GoTL ministerial structures.

30. **The Project complies with and supports** GoTL's objective of food self-sufficiency (Prime Minister's SDP and MAF's 2004 Policy and Strategic Framework) and with IFAD's Strategic Framework: 2011-2015 (Annex 11). Although IFAD does not have a COSOP for Timor-Leste, TLMSP as planned: (i) is aligned with IFAD's overarching goal that rural women and men in developing countries are empowered to achieve higher incomes and improved food security at the household level; (ii) complies with one of IFAD's six strategic objectives: *"Improved agricultural technologies and effective production services, with which they enhance their productivity"*; and (iii) meets two of IFAD's key principles of engagement: (a) *"guiding pro-poor support"* and (b) *"specific targeting"*. The Project also complies with and supports MAF's draft National Policy on On-Farm Storage of Maize and Paddy which states "... MAF pledges that all development partners cooperate in (the) procurement and distribution (to) all villages in Timor-Leste, (of) adequate airtight containers (e.g. drums) per family to securely store stock of seeds and food, in combination with the provision of seed of higher-yielding varieties (through SoL)".

31. **Achievement of TLMSP's goal and development objective** will ultimately also contribute to GoTL's broader poverty reduction objectives by: (i) reducing the need to import food (mainly rice) thereby releasing GoTL (and/ or donors') funds for investment in other poverty reduction activities; and (ii) in the longer-term result in, firstly improved upland food self-sufficiency and therefore reduced expenditure on food, and secondly allowing target families to either sell maize surpluses (generated with improved varieties and storage) for higher prices towards the end of the year (during the "hungry season") and/ or to add value through feeding small ruminants and poultry. By focusing on what is Timor-Leste's major issue (severe upland hunger and poverty) TLMSP's contribution to the nation's growth and development will be considerable given its potential to impact on all upland farming households over a period of about 13 years (assuming two subsequent five-year phases).

32. **TLMSP fits and links with other development activities**, and complies with the policies of international agencies and stakeholders. All have food security and poverty reduction in their development statements but there are differing opinions on how to achieve these objectives. Some argue that private sector development is the panacea whilst others focus on institutional capacity building, at a time when there is an urgent need to address some of more simple and obvious constraints to food production for which proven solutions are available, e.g. the use of drums to avoid maize storage losses. TLMSP has been designed to address this constraint by over-coming the major factor which is limiting the adoption of a proven technology – the supply of large numbers (possibly 400,000 to satisfy national demand) of 200L drums. IFAD's unique contribution to Timor-Leste's efforts to reduce rural poverty and hunger lies in the Project's simplicity and focus, and the strategy to build on a proven and widely accepted development intervention which can be implemented through existing delivery channels.

II. PROJECT DESCRIPTION

A. PROJECT AREA AND TARGET GROUP

33. **Geographic Coverage and Primary Target Group (Annex 2).** TLMSP will initially target the economically active poor (households which produce a minimum of 150kg of maize per year) in Aileu, (Year 1), Manufahi and Manatuto (Year 2), and Ainaro and Viqueque Districts (Year 3). These five districts have been targeted because 67% of all households live below the 2008 TSLS poverty line¹¹. The first four districts are in the Central Region where poverty is most concentrated and maize is a

¹¹ The upper TSLS poverty line (in 2007 dollars) was \$0.88 per person per day.

vital staple. Viqueque has a lower level of poverty (40%) but is a major maize growing district and will therefore allow the Project to “trial” drum distribution in an area which could produce maize surpluses. Phase I of the Project is expected to directly benefit around 60-65% of rural households in these districts (23,000 households) representing 18% of all rural households nation-wide.

34. **Target Group Characteristics.** Household sizes vary between the target districts and average 5.8 persons. Similarly farm sizes also vary but generally labor constraints limit cropped areas to about 0.70 ha of mixed maize, roots and tubers, and vegetables. Target households tend to grow small gardens around their homes with larger and rotating (swidden) gardens in valley floors and areas where soils are slightly more fertile. The only inputs are family labor and retained/ distributed seeds. Upland farmers do not use fertilizer and maize yields are very low by regional standards, as low as 0.5 Mt/ha and perhaps an average of about 1.4 Mt/ha¹². The basis of target families’ rural economic occupation is subsistence farming with annual cash transactions per family of between \$100 and \$200 – very little produce is traded or sold. This scenario confirms that the fundamental cause of rural poverty is the overwhelming dependence on on-farm employment, with farms characterized by very low productivity and subsistence farming systems which have not changed for generations.

35. **Target Group Poverty.** The target group is very poor by any standard (less than the equivalent of \$0.88 per day per person) and most are food-deficient for about three months of the year. Periodic hunger is a fact of life in rural Timor-Leste and households have a range of strategies to cope, including (for more than 90% of rural households): (i) eating less food by progressively eliminating meals and then adults simply not eating rice or maize; (ii) switching from rice to maize, or to other foods (mainly tubers); and (iii) selling livestock or other assets to purchase maize and/ or subsidized rice. About 50% of rural households use this latter strategy to cope with food shortages, along with foraging for forest foods which are in diminishing supply due to resource degradation.

36. **Agro-Ecological Characteristics.** As TLMSP is based on the simple intervention of drum purchase/ manufacture and delivery, there are no implications for development and poverty reduction associated with any of the target districts’ agro-ecological characteristics – all grow rainfed maize in small mixed-crop swidden gardens which is stored using wasteful traditional systems. Similarly there are no specific gender, ethnic, vulnerability or land ownership characteristics or issues which have the potential to impact on the effectiveness of TLMSP – benefits will be shared equitably within target households between women and men (Annex 2), all target families are extremely vulnerable, and land is owned under a custodial system which is not a constraint to small-scale maize production. However in order to ensure that the intervention is gender neutral, as part of the targeting mechanism gender mainstreaming measures will be applied at all levels of implementation (local government and village levels, and within individual households) with a particular focus on female-headed households.

37. **Role of Private Sector.** The private sector in Timor-Leste is not at all well-developed and this is particularly the case in rural areas. All agricultural production inputs are either retained on-farm or provided free-of-charge by MAF, e.g. seeds and small quantities of fertilizer. This “hand-out” environment is not conducive to the development of a competitive and vibrant private sector and therefore in the foreseeable future it is unrealistic to expect local entrepreneurs to supply large numbers of grain storage containers when farmers cannot afford to pay market prices for these items. However in the longer-term, and as the rural economy grows, such opportunities should emerge and this is why the design contains some support for the fledgling private sector in the form of the distribution of subsidized maize storage drums to selected re-sellers in district markets.

B. PROJECT DEVELOPMENT OBJECTIVE

Goal and Development Objective

38. The **goal** is “improved food security for maize growing households in Timor-Leste”, and the **development objective** is “reduced losses of maize stored on-farm”. Initially this improvement in household food security (following the distribution of maize storage drums) is expected to increase on-farm supplies of maize after harvest, and then reduce the length of the “hungry season”. These goal-level indicators will be measured: (i) (directly) through reductions in storage losses due to the Project (survey reports), and (indirectly) by an increase in the percentage of household food requirements

¹² Data on crop yields in Timor-Leste are very unreliable, except from Seeds of Life. FAO and MAF conduct annual crop cuts but these tend to over-estimate yields and if their on-farm food production estimates are extrapolated to the national level, Timor-Leste would be food self-sufficient – Working Paper 1.

being met by maize (measured against TLSL data); and (ii) using secondary data from the World Food Programme (WFP) and the United Nation's Children Fund (UNICEF).

39. **Achievement of the development objective** (on-farm maize storage losses reduced from about 15% to less than 1%) for 23,000 households following the distribution of 42,000 maize storage drums, will be measured by: (i) a baseline survey which reports on the extent of maize losses under traditional systems (and compares these losses with "with-project" losses); (ii) simple drum use monitoring reports; and (iii) periodic participatory impact assessments (PIAs) to elicit community views on Project performance.

40. **Figure 1 is a Project Overview** which shows the hierarchy of development objective, outputs, components, and grouped activities (detailed development interventions to be financed under the Project). The proposed development interventions are clearly focused on the achievement of two key operational outputs: (i) purchase and distribution of maize storage drums; followed by (ii) drum distribution to poor and hungry upland maize growers; and (iii) a management outcome (efficient Project management and coordination)¹³.

41. Figure 1 shows the linkages and synergies between the proposed interventions (component-level groups of activities [lower boxes]) which produce outputs, and displays a key feature of the design – its simplicity. There are only two main components, with the "product" from the first (drums) being delivered to beneficiaries in the second. The Project design is under-pinned by a clear rationale behind the choice of two operational interventions (Components 1 and 2). This was based on the key design activities of: (i) analyzing the demands and priorities of Timor-Leste's upland farming communities (they need improved on-farm maize storage); (ii) assessing and confirming local capacities (households are able to use and maintain maize storage drums); and (iii) learning lessons from similar projects, and from stakeholders' broader experiences with the design and implementation of rural development projects in Timor-Leste.

C. COMPONENTS/OUTCOMES

OUTPUT 1: Maize storage drums procured and/ or manufactured locally (Annex 4)

42. Initially the Project will depend on the international supply of new 200L drums. It is expected that drums will be imported for most of the first phase (42,000 drums over three years) whilst at the same time local (private sector) manufacture of 200L drums is investigated with support from R&D activities which focus on alternative drum/ container designs, in-field testing, and business development feasibility studies.

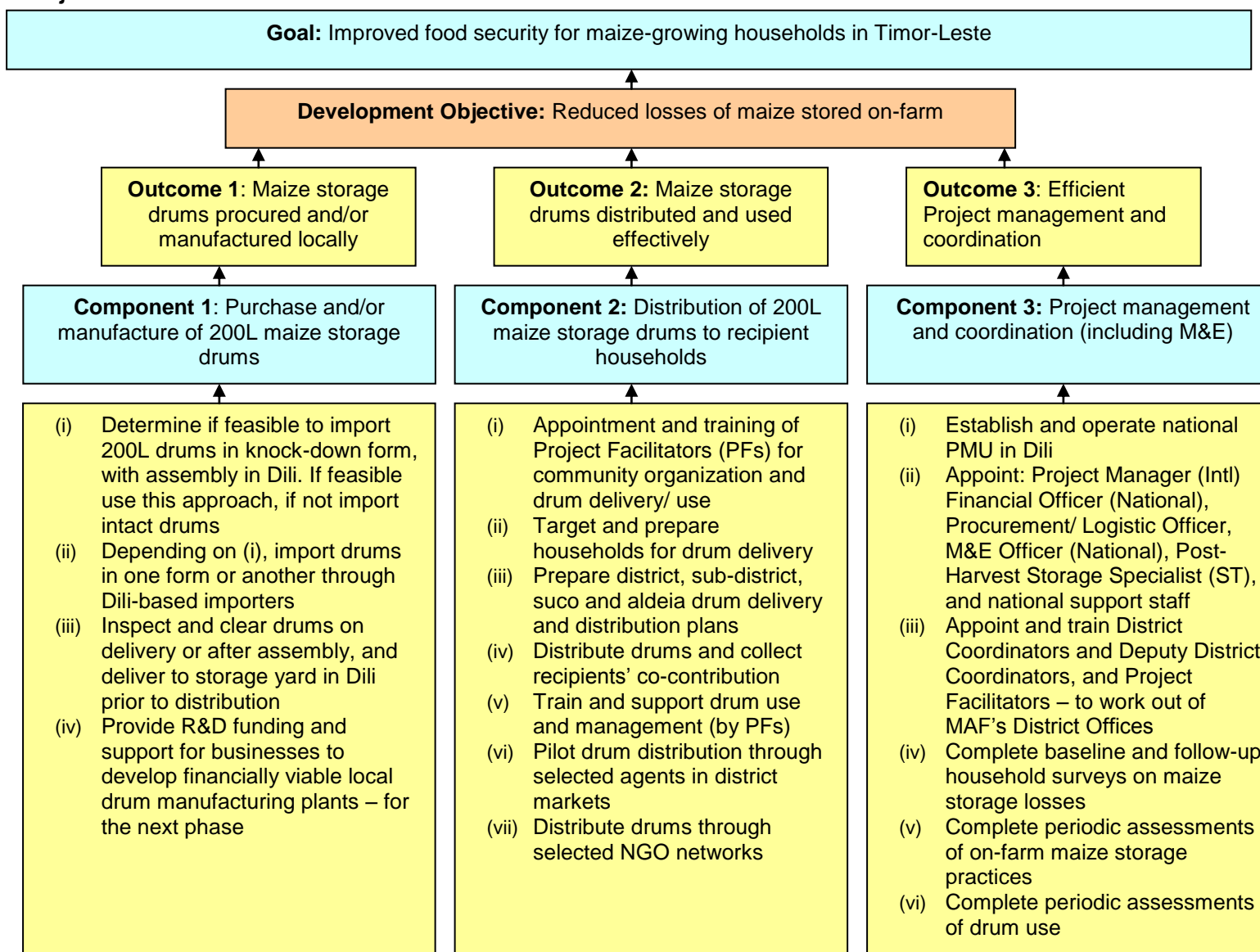
43. Firstly TLMSP will determine if it is feasible to import 200L drums in knock-down form, with assembly in Dili. If this is financially and technically viable, the Project will use this approach for Component 1, if not TLMSP will import intact drums through Dili-based importers. Although there will be rigorous quality control at source, the Drums will be inspected on arrival in Dili and rejected if damaged. Drums will be painted before shipment and badged. Once in-country, "how-to-use" stickers will be applied to the drums, either in the district-level holding compounds or in the sucos.

44. Project-funded R&D activities will include support for local industrial manufacturers¹⁴ to develop and field-test prototype 100L and 200L drums, followed by pilot rollouts and evaluation of field trials. The R&D package will include funds for businesses expansion and fund-sourcing feasibility studies, with the objective of supporting the emergence of a financially viable national drum manufacturing business under Phase II which is capable of: (i) meeting TLMSP's future demand for drums; and (ii) supplying an expanding private market which is expected to develop as farmers experience the financial benefits from owning drums. Limited R&D funds will also be allocated to improving maize shellers. Samples will be imported and tested in terms of acceptability to women and children (who do most of the maize shelling), and robustness and efficiency. Once local manufacture has commenced these labor-saving devices will be distributed free of charge at the rate of about one sheller per 10 households. The rationale behind this activity is that the use of shellers will make drum use for maize storage more attractive because the shellers will overcome a possible labor constraint – shelling maize cobs in a relatively short period of time compared with traditional storage methods where shelling is completed when maize is needed for food.

¹³ An output for project management has been included due to the project's procurement and logistics focus

¹⁴ Initially likely to be East Timor Roofing (ETR) from Baucau, and a company (un-named) which has just opened a corrugated roofing iron factory in Dili; plus a company which claims to be able manufacture price-competitive fibre-glass grain storage containers.

Figure 1: Project Overview



OUTPUT 2: Maize storage drums distributed and used effectively (Annex 4 and Annex 5)

45. **Summary.** This output will be achieved through the following steps: (i) appointing and training Project Facilitators (PFs) in community organization skills and drum delivery/ use; (ii) targeting and preparing households, in terms of eligibility and desire to use 1-2 drums for maize storage, depending on the level of maize production and willingness to pay a co-contribution of \$10 per drum; (iii) preparation of district, sub-district, suco and aldeia drum delivery and distribution plans; (iv) drum distribution in time for the next maize harvest, and the collection of recipients' co-contributions; (v) training and support in drum use and management (by the PFs); (vi) piloting of drum distribution through agents in district markets; and (vii) drum distribution through selected NGO community networks. About 23,000 households will receive 42,000 drums during the three-year Project.

46. **Project Facilitators (PFs)** will be appointed to complete field-level activities which lead up to and support drum delivery. PF appointments will be phased to reflect expansion from one target district in PY1 to two districts in PYs 2 and 3 (total of 26 PFs phased in with the districts). The PFs will be university graduates in social sciences and preferably be selected from one of the five target districts. They will receive induction and community engagement training which will be organized by the Project Management Unit (PMU) and delivered by: (i) staff from the PMU; (ii) contracted special trainers (with skills in community organization and support programmes); and (iii) staff and experts from partner projects such as Care's Local Initiatives for Food Security Transformation Project (LIFT) and SoL. The PFs will be supported with transport (motorbikes), communications, travelling allowances, and miscellaneous equipment, and with annual refresher courses. They will be responsible to the District Coordinators (DCs) who will work out of a District Coordination Office (DCO) and during the week will work at the sub-district level. The DCOs will remain operational for about one year and then the district team will move on to the next target district/s. The PFs will be supported and mentored by the DCs and Deputy District Coordinators (DDCs) and by the Project Manager (PM) when he/ she make periodic visits to target districts.

47. **The PF's main tasks** (see Annexes 4 and 5 for details) will include:

- (i) Meeting with District Administrator and Team: The drum delivery process will start with an introductory meeting at the district level between: (i) the DA and his/ her team; (ii) MAF's District Director (DDZ) and his/ her team (Food Production and Food Security, and Post Harvest Management Officers); and (iii) Project Staff – the PM, the DC and the DDC. The agenda will cover: (a) presentation of a Project outline; (b) identification of sub-districts (and if possible sucros) which are suitable for intervention; and (c) miscellaneous – organizing space for drum storage in the district centre, setting-up office space (rented or in MAF's District Office, depending on the specific district), and a supporting letter¹⁵.
- (ii) Meeting at Sub-District Level with Suco Chief: After the district-level meeting, a follow up meeting will be held in each sub-district with the Sub-District Administrator (SDA) and his/ her team, Project Staff (DC, DDC and PFs), Suco Chiefs, Community Development Officer (CDO) (if available) and representatives from NGOs and Community-Based Organizations (CBOs). The meeting will discuss: (a) introduction and presentation of the Project; (b) identification of sucros (and if possible aldeias) which are suitable for intervention; and (c) distribution of initial promotional materials to Suco Chiefs.
- (iii) Meeting at Suco-Level with Suco Council Members: PF's will then hold an introductory meeting with members of the Suco Council and stakeholders such as NGOs, CBOs, and MAF's Suco Extension Officers (SEOs) if available. The meeting will discuss: (a) introduction and presentation of the Project; (b) explanation of criteria to be used to compile lists of households who are eligible to receive subsidized maize storage drums, stressing the importance of including female-headed households; and (c) distribution of promotional material to the Suco Council. After the meeting the PF will work on the additional tasks of: (a) collation and finalization of target lists (eligible households), after one week; and (b) preparation of a socialization event.
- (iv) Socialization Event – Suco/Aldeia Level: The objective of this event will be to promote drum usage (including the provision of information on the advantages of drums, financial contributions, verification and delivery mechanisms, and household selection criteria). To avoid misunderstandings, the PFs will need to clearly explain the eligibility criteria to

¹⁵ This letter will state that the District Administrator supports the implementation of TLMSP in his/ her district.

potential beneficiaries. In addition, the PFs will provide advice on food security and child nutrition.

- (v) Verification process – Aldeia/Household Level: The objective of this process is to double-check and verify the list of eligible households, and to hand out tickets (required to collect drums) to recipient households. This task will be carried out by the PF with assistance from a volunteer (Suco and/ or Aldeia Chief and/ or his/her representative). After the verification process has been completed the PF will prepare a drum delivery plan and schedule with the DC, and schedule drum delivery in close cooperation with Suco Councils, and the Procurement /Logistics Officer (P/LO) in the PMU. A minimum of two weeks' notice will be given in advance of drum delivery to the Suco Council so that the Chief or his/ her representative can organize recipient households for drum collection.
- (vi) Drum Delivery Day – Suco Level, (with possible prior transport of drums to the Suco): The objectives of drum delivery day are: (a) to distribute drums to selected recipients against the entitlement tickets which were previously issued; (b) collection of co-contributions of \$10 per drum; and (c) announcement of a forthcoming drum use training day. This event will be organized by two PFs and the DC/DDC, or a third PF, and be attended by drum recipients and Suco Council members. An additional task after drum delivery will be to organize a drum use training day in coordination with the Suco and Aldeia Chiefs, plus follow-up on the food security situation and household nutrition status.
- (vii) Drum Usage Training Day – Suco or Aldeia Level (depending on number of recipients): The objective of the drum use training day is to explain/ demonstrate how to use drums to store maize. Training will include proper maize drying and storage techniques. The training will be carried out by the PFs with participation by: (a) the Chief of the relevant Aldeia; (b) SEOs (if available); (c) representatives from CBOs (if available); (d) representatives from the relevant Suco Council; (e) drum recipients; and (f) a representative from SoL (if possible). The day will also be used to run refresher courses on food security and household nutrition.

48. The PFs will assist the Monitoring and Evaluation Officer (M&EO) and the Monitoring and Evaluations Specialist (M&ES) with field implementation of various M&E activities, including the baseline storage loss assessment, the drum use monitoring programme, and the annual PIAs, as required. Annex 6 contains more details on the Project's planned M&E Framework.

49. **Drum eligibility criteria** will include: (i) households must rely on maize as their staple crop¹⁶; (ii) household maize production levels must be sufficient to warrant the initial use of one subsidized drum (approximately 150kg/year); (iii) households must not already have two or more usable drums (if a household already owns one drum it will only be eligible for one more); (iv) households which express interest in 1-2 drums (and satisfy the above criteria) must be willing to pay a co-contribution of \$10 per drum; (v) households must be willing to participate in follow-up PIAs and other M&E activities; and (vi) general household socio-economic situations must indicate a high level of poverty.

50. Drum delivery will be organized by the P/LO in close coordination with the DCs, DDCs and PFs. Drums will be delivered according to an agreed schedule and two week's notice will be given to the Suco and Aldeia Chiefs prior to drum delivery to enable them to organize recipients and to ensure that target households have their \$10 per drum co-payments ready. Drums ex-Dili will be transported at Project cost (using local trucking contractors) to holding-yards at the district level which will be securely fenced and guarded. Drums will then be transported (Project cost and local transport services) from district centres to sucos. Once drums are delivered to the suco level they will be ready for distribution to drum recipients, against collection of the drum tickets distributed to approved families after the verification process. These households will then be responsible for the transportation of their 1-2 drums from the suco centre to their homes.

51. **Subsidies.** The design is based on the Project paying a subsidy of about \$40 per 200L drum. A subsidy of this size is considered reasonable as target households will be making cash contributions of \$10 per drum. This cost may not appear to be significant but it must be remembered that GoTL currently provides all types of rural development support totally free-of-charge, so a contribution of

¹⁶ In mixed farming areas it will be important to only target those households which are predominantly dependent on maize.

20% of the cost of a drum delivered farm-gate is an “innovation” in terms of encouraging Timor-Leste’s rural population to become more independent of GoTL subsidies.

52. **Drum promotional materials** (in Tetun) will include: (i) flyers to promote objectives, implementation procedures, responsibilities, and designed to ensure that potential beneficiary households are aware of what the Project has to offer and the eligibility criteria; (ii) promotional posters for display in prominent positions; (iii) information leaflets and posters on drum use and maintenance, and food security and nutrition; and (iv) drum stickers (badging and drum use/ maintenance).

53. **Component 2 will support the emerging commercial drum** market by piloting drum distribution through selected district markets. This will involve selecting one agent per district through a competitive process who will be supported with training/ promotional materials and provided with drums at a subsidised price of \$20 per drum, for resale at market price. TLMSP will also provide drums (at CIF cost) to NGO partner networks which are involved in distributing drums¹⁷. Before agreeing to supply drums to partner NGOs these organizations will be asked to confirm that: (i) they are not planning to distribute in initial TLMSP’s target districts/ sub-districts; and (ii) they agree to charge a co-payment of \$10 per drum from recipients.

OUTCOME 3: Efficient Project Management and Coordination

54. **Annex 5 (Implementation Arrangements)**. This outcome will be achieved through: (i) the establishment and operation of a PMU at the national level (embedded in MAF’s National Directorate of Agriculture and Horticulture – specifically in the Post Harvest Management Division) in MAF’s Dili complex); (ii) DCOs at district level; (ii) the appointment and training of direct-hire DCs, DDCs and PFs in the districts; and (iii) the design and operation of an M&E system. A PMU consisting of a PM (international appointment); Finance Officer (FO), P/LO, and M&EO (national appointments) and administration support staff will be based in Dili. The PMU will be supported by a short-term international Post-harvest Storage Specialist PHSS); and short-term national M&ES. The main capacity building activities within MAF, likely supported by the World Bank, will be on-the-job training for the Ministry’s finance and procurement staff, as this is essence of the design – drum procurement and distribution.

55. **Project Implementation and Delivery Mechanism (Annex 5)**. The existing district and sub-district administrative system; and the suco and aldeia community structures, have been selected as the in-field implementation mechanisms because: (i) officials have a very good understanding of local agricultural production systems and food security situations; (ii) are experienced deliverers of community development initiatives and support programmes; and (iii) there is no need for institutional capacity building programmes. There is no rationale for developing and supporting a parallel drum delivery mechanism through an implementing agent as this approach would require considerable lead-time, training and budget. The district, sub-district, suco, and aldeia network is keen to assist with Project implementation and confirmed its willingness to cooperate with TLMSP.

56. Whilst it is more efficient to organize drum delivery through an existing community structure, it is also consistent to include MAF’s district-level staff in coordinating and learning roles. This is because these staff (District Director; and Food Crops, Food Security and Post Harvest Management Officers) will probably be responsible for field-level activities in any scale-up of the Project in subsequent phases. Therefore the DCOs will be located in MAF’s district offices if space is available¹⁸. MAF’s district level staff will be kept informed of Project activities and invited to participate in the pre- and post-drum delivery activities. Such coordination and cooperation will provide the Food Crops and Food Security Officers with valuable information on the status of food production and supplies in their districts.

57. **Monitoring and evaluation (Annex 6)** will encompass: (i) a baseline survey of maize storage practices and losses under traditional systems; together with (ii) periodic assessment of drum utilization (degree of use, consumption patterns during the storage period, degree to which guidelines on drum management are being followed, and households’ experiences and attitudes to using drums). Participatory Impact Assessments (PIAs) will be conducted annually as separate exercises, designed to gain feedback on: (i) Project performance in terms of planning, implementation methodology,

¹⁷ Maximum of 10% of the drum distribution target, and cost-neutral as the Project will sell drums to NGOs at the full CIF Dili compound price.

¹⁸ Project costings are based on three out of the five target districts being able to provide office space in MAF’s district offices.

poverty and gender targeting, beneficiary participation, and suitability of interventions; and (ii) the overall impact on food security, poverty, income diversification, women, and the environment.

D. LESSONS LEARNED AND REFLECTED IN PROJECT DESIGN

58. The lessons learned and reflected in the Project design are detailed in paragraph 29. In addition there are some more generic lessons which should be heeded when designing and implementing rural development projects in Timor-Leste. These include:

- (i) Development initiatives need to be aware of the linkages between the types of crops grown and the levels of rural poverty, and to ensure that biases are avoided.
- (ii) Free handouts of seed, fertilizer and tractors have set a precedent which will be difficult to overcome. However, consultations during the Project design process confirmed wide-spread agreement that drum-recipient families are willing to make a co-payment of \$10 per drum, which has been trialed and tested by others in Timor-Leste such as Drums on Farms.
- (iii) MAF's SEOs are in danger of being over-whelmed with implementation tasks associated with the ministry's (and other ministry's) development initiatives. This is one of the main reasons that TLMSP is not based on the formal involvement of SEOs. However where possible the Project will informally involve MAF's SEOs in its field level activities.
- (iv) Institutional capacity building and strengthening projects take years to impact on the quality of services and staffs' ability and skills. Therefore it would be unwise to base a short-term and quick impact Project such as TLMSP on the more traditional approach of "building capacity and then expecting field-level impact and benefits" to flow.
- (v) The Ministry of Finance (MoF) is increasingly substituting budget (cash and kind) from development partners for GoTL budget. Another relevant budget-related lesson is that it remains difficult for donors to work within GoTL's mainstream financial systems.
- (vi) Donor coordination is not always efficient as development partners attempt to establish a "strategic niche", with some focusing on selected geographic areas (districts), e.g. the EC-funded RDPs and others focusing on specific products, e.g. Portugal's support for the coffee. This highlights that TLMSP will need to carefully define its engagement with cooperating partners and ensure that the Project is aware of all development initiatives being implemented in the target districts.

III. PROJECT IMPLEMENTATION

A. APPROACH

59. TLMSP will use a community-based and participatory approach to Project implementation (Annex 4). The key operatives at the field-level will be the PFs who will work with Suco Chiefs to complete the series of community focused activities. These activities have been designed to ensure that the Project follows a community-based approach to the pre- and post-drum delivery activities, and subsequent PIAs. M&E activities have been designed to gather target beneficiaries' opinions on and satisfaction with this approach. Results will be used to adjust implementation activities if required.

60. The field-level activities (drum distribution) will be implemented through GoTL's district administration staff and networks (DAs, SDAs and CDOs), local community organizations (Suco Councils) and village leaders (Suco and Aldeia Chiefs), and in cooperation with MAF's district staff. This existing network is the most efficient conduit through which to organize and deliver drums and support programmes to the village level. TLMSP must avoid to be constrained by reliance on ministerial operational budgets as the timing of drum delivery (just prior to the maize harvest) is critical.

61. The approach to Project implementation will be the key to the Project's success. During design considerable attention was given to developing the mechanisms to deliver drums to target beneficiaries. The recommended series of step-by-step pre- and post-drum delivery activities was "tested and refined" in the field, and received full endorsement from all stakeholders. During design, potential target households and all levels of local government and community leaders validated and endorsed the decision to implement the Project through local government administration and

community organizations. In summary, the district-sub district-suco-aldeia network accepts to assist with Project implementation and confirmed its willingness to cooperate with TLMSP.

62. TLMSP will commence in early 2012, in time to appoint and train staff, and for the first round of drum distributions in Aileu District in early 2013. If the Project commenced in 2011 there would not be sufficient time before the first drum delivery to: (i) organize drum procurement and delivery to Dili; (ii) distribute drums to sub-districts; and (iii) organize the recipient communities. The first Phase of TLMSP will last for three years (commencing in 2011/12) and it is expected (subject to successful implementation and impact reviews) that subsequent phases will follow, with possible additional funding from other development partners active in Timor-Leste¹⁹. There are about 150,000 rural families in Timor-Leste and it is estimated that about 100,000 households would be eligible for support from TLMSP if it was a nation-wide Project. Phase I will assist 23,000 households and therefore a further 76,000 households (or three more phases the same size as Phase I) will be required to satisfy the national demand for maize storage drums.

63. The “trigger” indicators to assess whether a Phase II is justified include the following, all of which will be assessable within the scope of the Monitoring and Evaluation Framework: (i) the targeting mechanisms (designed to ensure that the distribution of subsidized drums is targeted towards poorer households) are working effectively; (ii) the anticipated reduction in storage losses and resulting financial benefits are being realized; and (iii) design/s for locally-manufactured drums which are technically, financially and socially acceptable have been developed and field-tested with clear identification of business partner/s.

B. ORGANIZATIONAL FRAMEWORK

64. **Figure 2 is an a Project structure and organization chart** which shows: (i) GoTL’s administrative and local community structures, and the key local community staff who will be involved with Project implementation; (ii) the Project’s structure and direct-hire staffing; (iii) MAF’s project-specific structure and involved counterpart staff; and (iv) the linkages and coordination between the Project, MAF, and the Ministry of State Administration and Territorial Management (MSATM) (this ministry oversees Timor-Leste’s local community staff). The chart highlights those staff and counterparts with key field-level implementation roles (marked with an asterisk*).

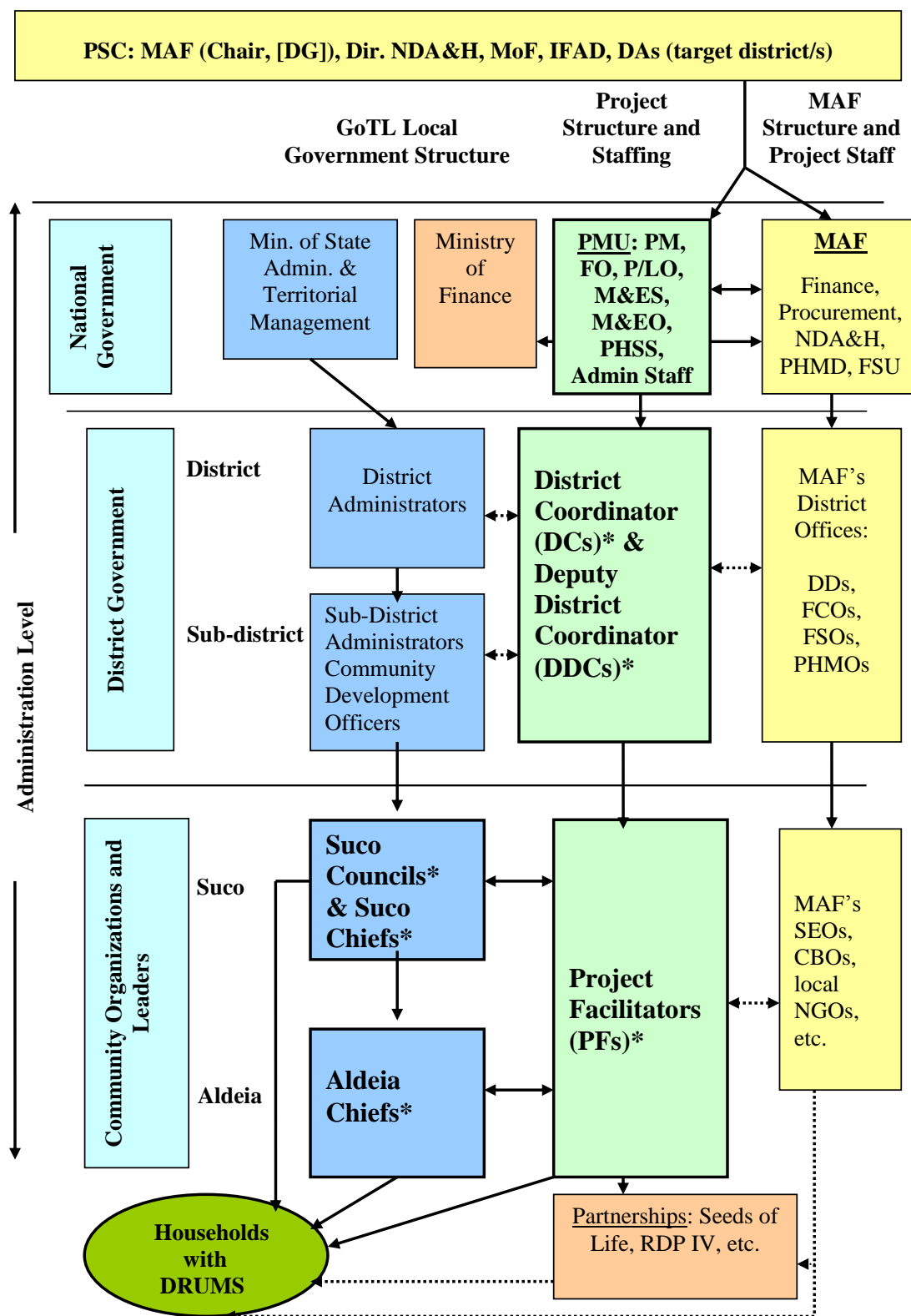
65. The key field-level operatives with essential implementation roles will be: (i) the Suco Councils and Suco Chiefs, and Aldeia Chiefs, who will be responsible (with support from the Project’s direct-hire PFs) for the community organization activities prior to drum delivery; (ii) the PFs who will be the Project’s key field-level implementers with support from the direct-hire DCs and DDCs; and (iii) the DCs and DDCs who will supervise and support the PFs.

66. Because TLMSP is embedded in MAF and MAF is the Lead Agency, it is logical to work out of MAF’s District Offices where this is practical in terms of the availability of office space and drum storage facilities. Therefore, it is also logical for the Project to liaise with MAF’s district- and suco-level staff but without relying on these staff for day-to-day implementation responsibilities. It will be important for MAF’s DDs to be aware of Project activities in their districts, and for MAF’s staff with responsibilities for food crops and food security to be able to collect Project-generated information on local food supplies (production and stored).

67. **The Project Steering Committee (PSC)** will comprise: (i) the Director General of MAF (Chair); (ii) the Director of MAF’s National Directorate of Agriculture and Horticulture (NDA&H); (iii) a representative from MoF (Vice Minister); and (iv) the DAs from the target district/s where the Project is currently operating. The PSC will provide overall Project direction and guidance, based on the Project Design Report (PDR) and the Project Implementation Manual. The Committee will be responsible for coordinating the provision of Government support (national and district levels); for coordinating Project activities with Government programmes (e.g. SoL III); and for providing policy support where required.

¹⁹ There have been expressions of interest from a number of development partners in a potential phase II.

Figure 2: Project Structure and Organization Chart



68. **Project Management Unit.** The next level of Project management below the PSC will be the in-country PMU, located in MAF's Dili complex and responsible for day-to-day Project implementation. The PMU will manage the DCs and DDCs, who will work out of either temporary rented DCOs or out of MAF's District Offices, depending on space availability. The DCOs will be established in current target districts and operate for a period of about one year. The DCs and DDCs will, in turn, manage the PFs whose key role will be to work closely with the Suco and Aldeia Chiefs to select beneficiary households, organise drum delivery, train recipients in drum use and maintenance, and conduct periodic monitoring activities.

69. **At the PMU and DCO level** linkages will be established with MAF's Food Security Unit (FSU) and the Ministry's DDs, Food Crops Officers (FCOs) and Food Security Officers (FSOs) based in the districts. The Project will provide its M&E data and information on drum use (and therefore food supplies) to the FSU for use at its discretion, and for submission to the national Food Security Committee. Similarly the DCs and DDCs will keep the FCOs and the FSOs informed of implementation progress and results, particularly in terms of food supplies in target sucos and aldeias.

70. **Two key strategic partnerships** will be important: (i) with SoL to realize the complementarity between TLMSP and this national seed distribution Programme; and (ii) with LIFT to continue to learn from the Project's maize storage drum distribution programme. Less formal partnerships with RDP IV and MAF's FSU will also be formed. The partnership with SoL will be pursued through an MOU and formalized meeting and information exchange process. The Project will also sponsor an annual "lessons learned" workshop involving relevant government agencies (e.g. MAF and the Ministry of Tourism Commerce and Industry [MTCI]); and donors working in the agricultural sector, particularly those with a direct interest in food security (FAO, WFP, AusAID), and NGOs.

C. PLANNING, MONITORING AND EVALUATION AND KNOWLEDGE MANAGEMENT

Annual Workplans and Budgets (AWPBs) (Annex 6)

71. AWPBs, prepared by the PMU with support from target district Project and GoTL staff, will flow from the community-based planning process. At the initial approval stage the AWPBs will be based on estimates of the number of drums which are likely to be procured and distributed. Reasons for this include: (i) the Project will be operating in a particular district for a period of only 12 months, spanning two financial years; and (ii) the precise number of recipient households, and drums to be distributed, will not be known until well into the implementation cycle in each district, following the identification and verification of beneficiary households. The AWPBs will be progressively updated throughout the year as the community-based planning process unfolds. The AWPB for PY1 will be prepared immediately after Project commencement. For subsequent years the AWPB will be prepared by the PMU and submitted to IFAD and the PSC for comment/ approval by not later than mid-December of each year.

M&E Processes and KPIs

72. These are central to the evolution and responsiveness of TLMSP. A range of approaches will be developed to ensure: (i) accountability to key implementation partners ("to prove"); and (ii) continuous learning and improvement as an integral part of implementation ("to improve"). Key elements of the Monitoring and Evaluation Framework (MEF) are outlined in Annex 6. M&E will be in line with the Logframe and verifiable indicators, which has been specified down to outcome/ development objective level. Outputs and activities designed to achieve these outcomes will be identified as a routine part of the annual planning process; with corresponding KPIs incorporated into the AWPBs and reported against in six-monthly Progress Reports. These KPIs will include the mandatory indicators for IFAD's Results and Impact Management System (RIMS), designed to measure IFAD's contribution towards meeting Millennium Development Goals.

Impact Assessment at Goal and Development Objective Levels

73. A baseline assessment of maize losses will be completed because there are no reliable data on losses under traditional storage systems in Timor-Leste. The Project will therefore establish (Year 1) and report on a baseline which accurately defines losses, and provides an improved understanding of traditional maize storage systems. The Project will also monitor the utilisation of drums: (i) degree of use (*quantity* of grain stored versus other forms of storage); (ii) consumption patterns during storage; (iii) the use of guidelines for drum management (surrogate measure for the *quality* of grain stored); and (iv) households' experiences and attitudes to using drums. Gender perspectives on the advantages and disadvantages of drums will be assessed, together with gender roles in managing drums. These assessments will allow direct comparison with the baseline from Year 1, and therefore

provide the basis for measuring impact on maize storage losses and food security. Results will be reported annually.

74. **Special Studies.** The Project will support a number of special studies to monitor the proposed R&D activities including: (i) field evaluation of alternative, local drum designs; and (ii) the need for maize shellers. Results will be reported as studies are completed.

75. **Participatory Impact Assessments (PIAs)** will be scheduled annually and conducted in a small sample of aldeia to gain feedback on performance in terms of planning, implementation methodology, poverty targeting, beneficiary participation, and suitability of interventions; and the overall impact on food security, poverty, income diversification and women. These assessments will be conducted by the M&ES. The PIAs will provide an important mechanism to obtain separate feedback from men and women on the Project's merits. Obtaining a clear understanding of women's attitudes to using drums, and their role in managing improved storage, will be crucial to defining future roll-out.

76. **The monitoring of management performance** will focus on learning and improvements to the implementation approach and management systems. These be assessed on an on-going basis and reported in the six-monthly Progress Reports. Internally, the PM and his/ her PMU staff will be responsible for assessing the quality of management performance. These assessments will be supplemented by external review by biannual direct Supervision Missions (including fiduciary reviews).

77. **Resources and Responsibilities.** M&E activities will be managed by the PMU in Dili. The PM will be responsible for finalising the MEF and over-sight for all M&E activities. Final design of the MEF and associated training will commence as soon as the Project is operational. Key M&E resources and responsibilities are specified in Annex 6, and include: (i) a full-time national M&EO; (ii) the DCs, DDCs and PFs who will be mainly responsible for collecting field data under the direction of the M&EO; (iii) a Post-Harvest Storage Specialist (PHSS); and (iv) the national M&ES who will be responsible for implementing and reporting on the annual PIA exercise, and for supporting implementation of the drum use monitoring programme. The M&EO will prepare an annual M&E plan as part of the AWPB preparation, detailing the prescribed M&E activities for the year, the inputs required, outputs expected, and timing and duration. M&E activities will be scheduled so that results can feed into the Annual Planning Workshops which will be held in July/ August.

D. FINANCIAL MANAGEMENT, PROCUREMENT AND GOVERNANCE

Financial Management (Annex 7)

78. **Flow of Funds.** A Project Designated Account (DA) will be opened by the Recipient in a commercial bank acceptable to IFAD. The Recipient will designate the person/s authorized to jointly operate the DA and to withdraw funds. All payment authorizations for Grant-eligible expenditures will be prepared by the PMU and no withdrawal from the DA will be effected without this certification. An Authorized Allocation equivalent to an average of six-months of eligible expenditure during implementation (\$750,000) will be deposited once the conditions for disbursement are met. IFAD will establish a Grant Account upon entry into force of the Grant Agreement. Withdrawals from the Grant Account will be made on the basis of Withdrawal Applications (WAs) being prepared by the PMU and authorized by the persons designated by the Recipient to sign WAs.

79. **Disbursement Procedures and Documentation supporting the Withdrawal Applications.** Replenishments of the DA will be effected through the submission of WAs and supporting documentation and/or Statements of Expenditure (SOEs). All WAs will be in line with projected expenditure as detailed in the approved Annual Work Plans and Budgets (AWPBs) and related Procurement Implementation Plan (PIP). The PMU will be responsible for the preparation and consolidation of SOEs, the reconciliation of the DA, and for filing appropriate documentation and the WAs, which will be approved by the PMU and MAF prior to being submitted to IFAD for payment.

80. **Project Sub-accounts.** The DCOs will maintain separate District Operating Accounts, if banking services are available, with funds transferred from the Project DA to cover district operational expenses - limited mainly to: (i) office and vehicle operating costs (but excluding salaries and allowances); (ii) expenses related to the sub-district/ suco planning process; and (iii) the cost of

transporting drums from the district down to suco level²⁰. All major procurement items will be managed directly by the PMU.

81. **Approvals, Acquittals and Authorisations.** The PMU will be jointly responsible with MAF for entering into contracts and handling payments on behalf of the Project²¹, subject to the approval process and authorizations outlined below. All transfers from IFAD to the Project's DA, and from the DA to the DCO Accounts must be in line with the current AWPB, and will be subject to satisfactory acquittal of previous advances. Each AWPB must be formally approved by the PSC prior to any expenditure being incurred against these plans and budgets; and all WAs (and accompanying SOEs) must be approved by the PMU and MAF prior to submission to IFAD. Payments from the DA will be certified by the PM and the FO. Payments from the DCO Account will be co-signed by the DC and the DDC for individual payments of less than \$1,500; and by the DCO and the FO for payments of \$1,500 or more.

Government and Beneficiary Contributions

82. GoTL will be making a significant financial contribution to the Project in the form of sales taxes and import duties foregone on all imported drums, equipment and materials. This will be reflected in the terms of the Grant Agreement, by providing the Project with official tax-exempt status. Beneficiaries will be required to make a co-payment of \$10 per 200L drum. These payments will be collected (in cash) by the PFs when drums are delivered to the suco, deposited into the DCO Operating Account at District-level, then transferred into the DA. Co-payments will be retained within the DA and applied to offset the total funding required when preparing the next WA.

Retro-Active Financing

83. Provision will be made for retro-active financing of up to \$30,000 to cover initial expenditures incurred by GoTL between approval of the Grant, and Grant Eligibility for disbursement. Eligible activities will include establishment/ refurbishment of the PMU in Dili and the recruitment of the PM, the FO and the P/LO who will work out of the PMU. All expenditure for which retro-active financing will be applied must be in line with the overall design, and procurement must be in line with specified procurement procedures (see Annex 8). Retroactive financing will be subject to approval by IFAD's Executive Board.

Project Accounts

84. A full set of accounts will be maintained by the PMU covering both PMU and DCO expenditures, in accordance with IFAD's requirements and internationally acceptable accounting standards. IFAD will be responsible for periodic reviews of Project accounts to ensure their adherence with acceptable standards of transparency and accuracy. PMU staffing will include a qualified FO. As well as managing the overall accounting system, the FO will also be responsible for ensuring that Project personnel maintain records of field-level expenditure. This will require the maintenance of a simple set of accounts at the district level so that the DCs, DDCs and PFs can account for their operational expenditure.

Procurement Guidelines (Annex 8)

85. **Procurement Procedures.** IFAD's Guidelines dated September 2010 and its Procurement Handbook will apply for the financing of the Project. An IFAD Project Procurement Handbook will be sent to the Recipient upon Grant signing to assist the PMU with the procurement processes and forms. As a practice under IFAD projects, in case of need, the PMU can use the World Bank's sample Standard Bidding Documents. The list of Procurement methods to be followed under the Project can be selected from the list in Annex 8, Appendix 2 and will be reflected in the 18 month Procurement Implementation Plan. This plan will be prepared by the PMU. A provisional 18 month Procurement Implementation Plan with the procurement and IFAD prior approval thresholds is detailed in Annex 8, Appendix 1.

86. **Procurement PMU staffing.** Procurement management will be exercised by the PMU which will be staffed with a PM, an experienced P/LO and a FO. MAF will appoint these staff on a competitive basis, subject to review by IFAD. The P/LO and the FO will be responsible for managing

²⁰ Note that by the time the Project commences Timor-Leste is likely to have a 3G wireless network operating in all districts, so it should be possible to transfer money between the PMU's DA and District Operating Accounts, electronically.

²¹ And DCOs to the limit of their delegated authority, under direct supervision of the PMU.

the procurement process. The Recipient, through the Bid Evaluation Committee, will have the opportunity to participate in major procurement decisions. During Project start-up, a financial management and procurement expert will be mobilised by IFAD to provide on-the-job training for PMU staff, and to assist with finalisation of the 18-month procurement plan.

87. **18 month Procurement Plan.** Before commencing implementation and annually thereafter, the Recipient will provide a Procurement Plan to IFAD for approval. A draft Procurement Plan for the first 18 months of the Project is presented in Annex 8, Appendix 1. This will be revised and further detailed at the start of the Project by the PMU and submitted to IFAD for a “no objection”.

88. Procurement will be exclusively undertaken only during the Project implementation period except for: (i) retroactive financing starting from the date of approval of the Project by IFAD’s Executive Board; and (ii) for winding up expenditures after Project completion date and before the Grant closing date. No procurement will be undertaken if it entails a payment to persons or entities, or an import of goods prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations.

89. **Procurement Decisions.** A Bid Evaluation Committee will be established by the PMU for the evaluation of bids related to procurement of goods and services with a contract value of more than \$50,000. This Committee will involve the PM, the FO, the P/LO and senior finance and procurement staff from MAF with designated responsibilities for the Project. Independent technical specialists may be invited to participate in bid evaluations on an as-required basis. The award of any contract for goods and services for goods costing \$100,000 or more per contract will be subject to prior “no objection” from IFAD. The Terms of Reference and award of contracts for consulting services or core studies will be subject to IFAD Prior Review.

90. **Procurement Documentation.** Annex 8 contains these details.

Audits

91. All bidding documents and contracts for the procurement of goods and consulting services financed by the Project will include a provision requiring bidders, suppliers, contractors, subcontractors and consultants to permit IFAD to inspect their accounts, records and other documents relating to the bid submission and contract performance, and to have them audited by Fund-appointed auditors and investigators. This provision will require bidders, suppliers, contractors, sub-contractors and consultants to: (i) maintain all documents and records related to activities performed for three years after completion of the contract; and (ii) require the delivery of any document necessary for the investigation of allegations of fraud or corruption (and the availability of employees or agents of the bidders, suppliers, contractors, sub-contractors or consultants with knowledge of the activities financed by IFAD) to respond to questions from IFAD’s personnel or any properly designated Auditor, investigator, agent or consultant relating to review or audit of the document. If the bidder, supplier, contractor, subcontractor or consultant fails to comply with IFAD’s request, or otherwise obstructs IFAD’s review of the matter, IFAD, at its sole discretion, may take appropriate action against the bidder, supplier, sub-contractor or consultant, including the imposition of sanctions in accordance with the administrative procedures of the Fund.

Governance

92. Timor-Leste has, in recent years, taken promising steps to improve governance and address corruption. This is reflected in the National Development Plan which states the intention to promote good governance through popular participation; a responsible and responsive government including a lean, efficient, effective, accountable and transparent civil service and effective, professional, non-political defence and police forces; a decentralized administration with simple and transparent norms, so that governance and public administration is closer to the people; a socially responsible private sector, transparent and accountable civil society organizations; and a responsible, independent and effective media.

93. **Fraud and Corruption Practices.** Fraud and corruption can undermine the effectiveness of the IFAD’s operations in different ways. IFAD shall apply a zero-tolerance policy where it has determined, through an investigation performed by IFAD, the borrower or another competent entity, that fraudulent, corrupt, collusive or coercive actions have occurred in projects financed through its loans and grants, and it shall enforce a range of sanctions in accordance with the provisions of applicable IFAD rules and regulations and legal instruments. ‘Zero tolerance’ means that IFAD will pursue all allegations falling under the scope of this policy and that appropriate sanctions will be applied where the

allegations are substantiated. This policy applies to IFAD-funded activities. IFAD ensures that it is effective in preventing, detecting and investigating fraudulent, corrupt, collusive and coercive practices. The Fund shall take all possible actions to protect from reprisals individuals who help reveal corrupt practices in its project or grant activities and individuals or entities subject to unfair or malicious allegations. This policy is in line with the policies adopted by the other international financial institutions.

94. To ensure effective governance, the Project incorporates the following measures to be monitored through a good governance framework.

95. Transparency of Information:

- Enhanced disclosure provisions: (i) making publicly available all key documents, (ii) informing all bidders promptly of contract awards and bid evaluation summaries; (iii) allowing representatives of end-users of the goods or works being procured to attend the public bid openings; (iv) making available the details of all contracts awarded; and (v) making available the date of request for all contract payments and the date of each payment, with an explanation of the reason for any delays.
- Standardization of certain communication items/materials e.g. (i) use of standard wording in advertisements; (ii) agreement on the list of newspapers of nation-wide circulation in which specific advertisements will be placed; (iii) use of standard bidding and contract documents and request for proposals (for consultancy service), with no further changes to be made without IFAD's prior approval; and (iv) publication of prices paid for items in different locations.

96. Participation and Consultation:

- The Project implementation is driven by a community planning/ implementation cycle to promote and socialize the project to the communities, select and then verify households, distribute the drums and provide user training. The Project's consistent communication process at various stages of engagement will facilitate a more active participation by the communities in project activities.
- Establishing a complaints handling mechanism (and the use of sanctions), whereby targeted households and the general public in targeted districts can channel complaints or inquiries e.g. through the use of mobile phone text messaging. Complaints and inquiries will be systematically recorded and followed up.
- Public Audit Groups: The project would set up public audit groups, one in each district, to facilitate 'more transparent, accountable and locally manageable' project implementation. They would be composed of representatives (if available) of civil society, media and other concerned stakeholders, with the members selected by the PMU, reporting to the Project Steering Committee.
- Project planning and review events will be undertaken periodically to provide and encourage feedback and exchange between the project, partners and beneficiaries.

97. Monitoring and Oversight:

- Direct supervision. The project will be directly supervised by IFAD. Two supervision missions, with the participation of relevant project partners, will be undertaken per annum.
- M&E: the Project will establish an operational M&E system to ensure accountability to key implementation partners and continuous learning and improvement.
- Fiduciary aspects, there will be in-depth and intensive supervision in the initial years on fiduciary aspects and procurement to ensure the efficient and effective implementation of the project.
- Procurement: the project will be subject to a higher level and expanded scope of ex-post reviews by IFAD to include checks for indicators of collusion, end-use deliveries, and procedural compliance, among other measures.
- Coordination Mechanisms. A number of coordination mechanisms are envisaged to ensure effective monitoring and oversight.

- Participatory Impact Assessments. Participatory Impact Assessments will be undertaken on an annual basis to provide feedback on the Project performance.
- Independent Audit: The project will be subject to independent and external auditing in line with IFAD procedures and requirements.

98. Enhancing Capabilities:

- To diminish the risks of financial management and good governance issues, the World Bank's Office in Timor-Leste has offered to assist IFAD with capacity building in MAF's Procurement and Finance Divisions in the form of inviting MAF's staff to participate in periodic training programs run out of the Bank's Sydney, Australia office. The World Bank has also offered to assist the Project with procurement and finance quality control by conducting periodic assessments and reviews of the Project's procurement and financial management systems and procedures (if requested by IFAD).

E. SUPERVISION

99. Direct supervision by IFAD will be on a bi-annual basis with missions scheduled to coincide with AWPB preparation, PSC meetings, and the PMU's and MAF's approval of WAs. Missions will focus on progress towards meeting higher-order indicators, output indicators, farm-level impacts, and implementation issues. The final supervision mission will include a completion review of Phase I with emphasis on assessing performance against "trigger" indicators for a possible Phase II. It is expected that IFAD will establish an office in Indonesia in early 2012 with responsibility for Timor-Leste. This will significantly increase the opportunity for engagement, and direct monitoring and follow up from IFAD.

Table 1: Risks, Consequence and Mitigation

Risks	Possible Consequences	Mitigation Measures
Generic Risks		
<ul style="list-style-type: none"> Break-down in peace and order. Inconsistent agricultural and rural development policies 	<ul style="list-style-type: none"> Major impact on Project rollout and impact at farm level No direct impact Given the focus and importance of the problem being addressed, food security is likely to remain a priority even if other aspects of policy change 	<ul style="list-style-type: none"> Not possible to influence the likelihood of this risk. Ongoing dialogue with MAF and key donors to ensure that food security remains high on the list of priorities. Indirect support for MAF's FSU should keep the issue of food security high on GoTL's agenda.
Project-Specific Risks		
<ul style="list-style-type: none"> Inadequate international supply of new drums available at acceptable prices 	<ul style="list-style-type: none"> Delays in drum delivery and therefore on-farm impact 	<ul style="list-style-type: none"> Commence international inquiries for supply of new drums (complete or "knock-down" form as soon as Project commences – research during design indicate reliable supplies from China, India and Vietnam)
<ul style="list-style-type: none"> Delayed drum procurement/ shipment/ port clearance/ and distribution 	<ul style="list-style-type: none"> Delays in drum delivery and therefore on-farm impact 	<ul style="list-style-type: none"> Inform GoTL port officials well in advance of deliveries, to prepare for landing and clearance processes If possible, maintain drum stock-piles well in advance of planned district and suco delivery schedules
<ul style="list-style-type: none"> Local drum manufacturers unable to raise additional investment funds and working capital to expand businesses 	<ul style="list-style-type: none"> Lagged (or no) local drum manufacture which is required for a national roll-out in Phase II Delays in drum delivery and therefore on-farm impact 	<ul style="list-style-type: none"> Allocate Project R&D funding soon after Project commencement to allow time to complete feasibility studies and raise funds
<ul style="list-style-type: none"> Use of local government and community structures and staff to organize and assist with drum delivery is delayed, or proves to be inefficient 	<ul style="list-style-type: none"> Major delays in drum delivery and therefore on-farm impact 	<ul style="list-style-type: none"> Ensure early district-level cooperation and coordination by PMU staff; and field-level District Coordinators, Deputy District Coordinators and Project Facilitators If early indications are that this is a major risk, plan and hold implementation workshops with main stakeholders to find solutions
<ul style="list-style-type: none"> Drum delivery to sucos by small trucks proves difficult due to un-trafficable roads 	<ul style="list-style-type: none"> Delayed drum deliveries and therefore delayed on-farm impact 	<ul style="list-style-type: none"> If possible, drum delivery will be completed at the commencement of the dry season, but if this is activity is not possible delivery will have to be re-scheduled Liaise with Mol, ILO, AusAID, EC and other road project funders to schedule deliveries in phase with road-improvements
<ul style="list-style-type: none"> Insufficient skilled District Coordinators and Project Facilitators available 	<ul style="list-style-type: none"> Major delays in drum delivery and therefore on-farm impact 	<ul style="list-style-type: none"> Advertise for and appoint and train all staff required in PY 1 immediately after Project commencement Run regular refresher/ up-grading courses and reward good results and outcomes with additional training opportunities
<ul style="list-style-type: none"> Use of drums for non-grain storage purposes 	<ul style="list-style-type: none"> Some misuse is inevitable, so need to anticipate this outcome and address the potential risk during drum-use training and follow-up 	<ul style="list-style-type: none"> Accept that some miss-use is inevitable Train PFs and target households in correct drum use Work with groups who understand and want assistance with grain storage (targeting) - charging \$10 per container will focus target households on correct drum use

F. RISK IDENTIFICATION AND MITIGATION

100. Table 1 (previous page) is a Risk Matrix. The Project is not considered particularly high risk as the basis for design is proven, simple and widely acceptable technology; and implementation will be through a tried and proven mechanism (district governments and local community structures). However two country-specific risks are worthy of mention: (i) that peace and civil order are maintained (an election is due in mid-2012); and (ii) the current agricultural development policy (and associated budget) is heavily skewed towards the irrigated rice sub-sector, at the expense of the maize-dominant rainfed sub-sector. Project-specific risks are listed in Table 1, along the possible consequences and recommended mitigation measures.

101. The generic and Project-specific assumptions which underlie the sustainability statement in para 115 are listed in the Logframe and are reflected in the risk analysis. Apart from a break-down in peace and civil order, there are no risks which cannot be managed during implementation. In the event that any of the Project-specific risks arise the main consequence will be delays in drum delivery and therefore lagged on-farm benefits. The risk mitigation measures listed in Table 1 were considered when formulating the design and none are unrealistic or will be difficult to implement.

IV. PROJECT COSTS, FINANCING AND BENEFITS

A. PROJECT COSTS

102. **Project Objective and Duration.** TLMSP aims to improve food security by reducing on-farm maize storage losses. The availability of suitable storage containers at an affordable price is considered the single most important constraint to reducing losses. The key intervention proposed is the provision of 200L airtight drums, a low-risk approach which has been tried and proven since pre-Indonesian days. In total, about 42,000 drums will be imported and distributed during Phase I. Phase I will also investigate the feasibility of manufacturing or fabricating drums in Timor-Leste, with the aim of developing a local supply capacity. Phase I has been costed in August 2011 prices and is expected to be implemented over a period of three years starting in early 2012.

103. **Price Contingencies, Exchange Rates and Inflation.** Calculation of financial contingencies is related to projected international and domestic inflation, which between now and the end of 2014 (when Phase I is expected to close) is shown in Table 1 Working Paper 7. International inflation projections are based on the World Bank's Manufactures Unit Index (MUI) for G-5 countries²². Domestic inflation is based on the latest World Bank estimates²³.

104. **Physical Contingencies, Taxes and Foreign Exchange Content.** Physical contingencies, foreign exchange content, and average tax rates incorporated into the cost estimates are detailed for various expenditure categories in Table 2 in Working Paper 7. Physical contingencies have been included at a rate of 10% for drum procurement and subcontracts, and 5% for other items. Almost all manufactured goods in Timor-Leste are imported, which is reflected in the high foreign exchange content for major cost items. Duties and taxes are based on the current tax regime in Timor-Leste²⁴.

Base Costs

105. **Project Cost by Component.** Project cost by component is summarised in Table 2 below. Total cost over three years is estimated to be \$5.58 million including physical and price contingencies. The foreign exchange element is estimated to be \$2.90 million (excluding contingencies) or 59% of base costs, reflecting the high proportion of funds which will be used to import drums.

²² 11 Aug 2010 update.

²³ East Asia and Pacific Economic Update; Wold Bank; Nov 2010.

²⁴ Substantially reformed and simplified in 2008.

Table 2: Base Costs by Component

	(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total		
1. Drum Procurement/ Manufacture	671.2	1,481.3	2,152.5	69	43
2. Drum Distribution	595.3	439.6	1,034.9	42	21
3. Project Management	788.5	979.4	1,767.9	55	36
Total BASELINE COSTS	2,055.0	2,900.3	4,955.4	59	100
Physical Contingencies	134.2	226.5	360.7	63	7
Price Contingencies	109.1	157.2	266.2	59	5
Total PROJECT COSTS	2,298.3	3,284.0	5,582.2	59	113

106. Sixty four percent of the total base cost will be utilised to purchase and distribute drums, and to provide support services. Within this total, Component 1 (Drum Procurement/ Manufacture) accounts for around 43% of base costs, and Component 2 (Drum Distribution) for 21%. Component 3 (Project Management, including TA costs) accounts for the remaining 36% of the base costs. Reasons why management costs are slightly higher than normal relate to the need for a progressive build-up of drum procurement and distribution activities, combined with the short Project duration of three years. If the Project extends into another Phase, management costs as a proportion of total costs would decrease substantially.

B. PROJECT FINANCING

107. **Financing Plan.** The proposed financiers are GoTL, the beneficiaries, and IFAD. GoTL will finance the tax and duty element of all expenditures. GoTL will also be making a substantial in-kind contribution in the form of time committed by GoTL staff, particularly at district and sub-district levels, which has not been costed. Beneficiaries will be required to make co-payments of \$10 per drum, equal to around 20% of the farmgate price of a 200L drum. IFAD will provide grant financing for all remaining Project cost elements.

Table 3: Project Costs by Financier

Financier	(US\$ '000)	% Total Costs
GoTL	155.2	2.8
IFAD Grant	4,944.7	88.6
Beneficiaries	482.4	8.6
TOTAL	5,582.2	100.0

108. **Co-financing.** AusAID and the World Bank have expressed interest on a “no commitment” basis in partnering with IFAD on the TLMSP. However, given the challenge of procuring and distributing 42,000 drums to 116 remote sucos across five districts, the scope of the project has been deliberately concentrated. However depending on the speed with which results flow from Phase I R&D activities, it may be possible to advance to PY3 some preliminary activities associated with developing local capacity for drum manufacture. This might provide an opportunity for co-financing towards the end of Phase I.

C. SUMMARY BENEFIT ANALYSIS

109. **Benefits and Beneficiaries.** Major benefits resulting from the Project are likely to include: (i) improved food security due to reduced storage losses, with associated social benefits; (ii) increased household incomes through reduced purchases (or increased sales) of maize resulting from reduced losses; (iii) reduced imports of food-grain (mainly rice) to bridge national food production deficits, with associated foreign exchange savings; (iv) increased adoption of higher-yielding improved varieties by

farmers once they have access to improved storage, due to the generally higher susceptibility of some of the new varieties to storage pests; (v) health benefits associated with improved food availability for poor, food-deficit households, and also associated with decreased reliance on in-kitchen “smoking” to control insect pests with associated links with respiratory health; and (iv) stimulation of private sector activity associated with local production and marketing of drums (in Phase II). The Project will work in five districts selected on the basis of poverty incidence and maize production levels. It is estimated that about 23,000 households (65% of the total rural households in the five districts) will be direct beneficiaries under the Project.

110. **Financial viability** has been assessed by constructing a range of activity models for upland maize production, differentiated on the basis of maize production levels (average households and poorer households); and quantity of storage provided under the Project (1, 2 or 3 x 200L drums). Prevented storage losses have been calculated for each model, and valued in the context of household grain balances, i.e. whether prevented losses are likely to be consumed (in the case of grain deficit households) or sold (grain surplus households). Key results include:

- Reduced storage losses amount to 27.0 kg/drum/year, valued at around \$19/drum. For a household with two drums this represents an increase in household cash income of 19% - 38% (either through reduced purchases or increased sales), assuming WOP household cash incomes of between \$100-200 per annum.
- All models are food deficit “Without Project”. “With Project”, the only model which moves towards being food surplus is model 3, which incorporates the higher maize production scenario and three storage drums. Even for this model, the household is still just food deficit (by 8 kg). For the vast majority of beneficiary households, the major benefits of having improved storage will therefore be related to enhanced food security and reduced purchases, rather than enabling a transition to market-oriented production. Coupled with increased adoption of higher-yielding improved varieties however, provision of improved storage would potentially lift the majority of households out of the subsistence production zone.
- Ownership of one drum/household results in a 3% improvement in food security for an average household; two drums 6% and three drums 9%.
- Investment in drums for storage generates a FIRR of 56%, with the full cost of the drum/s accounted for. This demonstrates that it should be possible for farmers to purchase additional drums, provided they can save (or borrow the required capital) against their incremental cash-flows.
- Year 1 cash-flow (after financing) is positive for all models, i.e. beneficiaries are able to pay \$10/drum, which would be more than covered by the value of their reduced storage losses in the first year.
- Returns-to-labour WOP range from \$1.36/day for the lower production scenario to \$1.77/day for the average production scenario. These returns are generally below prevailing market rates for unskilled labour (\$2.0/day), again reinforcing the subsistence nature of maize production. Given that using drums for storage is expected, at worst, to be labour-neutral (i.e. labour is a fixed cost for a given production area and volume regardless of how many drums are owned), returns-to-labour progressively increase as the number of drums used increases. For the low production scenario, WP returns-to-labour progressively increase from \$1.54/ day (one drum) up to \$1.90 (three drums); and for the average production scenario from \$1.90 (one drum) up to \$2.16 (three drums).
- **Sensitivity Analysis.** If drum costs are reduced by \$5 per unit (from \$30 cif to \$25 cif) the FIRR increases to 67%; and to 83% if drum costs are reduced by \$10 per unit. The returns to labour do not change as target families will only pay \$10 per drum, irrespective of the cif drum price.

111. **Economic Viability.** Economic viability has been assessed by projecting incremental net benefits (value of prevented storage losses, less direct costs of providing this storage, less Project overhead costs), expressed in economic prices. The primary benefit stream is based on valuing reduced storage losses associated with the use of the approximately 42,000 drums which will be procured and distributed under the Project. A secondary benefit stream has also been estimated based on farmers increasing their storage capacity by an additional 50% through the purchase of

additional drums through market channels following the distribution of subsidised drums by the Project. The economic analysis incorporates the full overhead Project cost stream, excluding the relatively small Research and Development and Technical Assistance costs only. Including both primary and secondary benefit streams, the Project has the capacity to generate an EIRR of 16%. Excluding the secondary benefit stream, the EIRR drops to 15%. These results justify the Project's investments assuming a 10% opportunity cost of capital over a 20-year period.

112. **Sensitivity Analyses.** The Project's EIRR is highly sensitive to the key assumption related to the percentage of maize lost when stored under traditional systems. For example, if the loss figure is increased from 15% to 20% (a not unreasonable assumption according to many "local experts"), the EIRR (excluding secondary benefits) increases to 22%, and to 24% if secondary benefits are included. The corresponding EIRRs for a 25% maize loss are 29% and 31%, respectively.

113. Using a base 15% maize loss figure, if drum prices are reduced by \$5 per unit (from \$30 cif to \$25 cif) the EIRR increases to 16% (excluding secondary benefits) and to 17% if secondary benefits are included. The corresponding EIRRs for a \$10 reduction in drum cif prices are 17% and 19%, respectively.

114. **Pilot nature of Phase I.** It should be noted that TLMSP has been designed as a pilot activity, laying the foundation for subsequent Phase/s that will promote improved storage for maize, and possibly other crops, nation-wide. Once this scale-up occurs, there would be a corresponding improvement in the financial and economic impacts outlined above. Note also that if the availability of improved on-farm storage increases the adoption of higher yielding varieties of maize (some of which are more susceptible to insect damage) as expected, the financial and economic benefits would further increase.

D. SUSTAINABILITY

115. The design includes key measures to promote long-term sustainability, including: (i) selection and promotion of a simple development intervention which is technically, socially and financially viable - farmers have been using drums to store maize for at least 25 years (if available); (ii) support to kick-start financially viable in-country drum manufacture and distribution through local market channels; (iii) consideration of drum importation in "knock-down" form (to reduce prices); (iv) detailed, step-by-step plans for community engagement and support activities which will foster widespread use of drums; and (v) a close partnership with SoL to ensure full expression of the strong complementarity between this Programme and TLMSP.

116. A key feature of TLMSP is its simplicity which expected to positively influence the likelihood of sustainability. Compared with more "traditional" rural development projects which often depend on institutional capacity building and complicated technology change interventions, TLMSP's focus is on simple drum importation/ manufacture and distribution activities to generate increased food supplies and ultimately increased farm incomes. Furthermore, once target households have drums, experience indicates that: (i) they will strive to buy more drums to increase on-farm food storage and to enter the cash economy through the sale of surplus grain; and (ii) the annual benefits (reduced maize wastage) will continue for at least 20 years (life a drum) without further Project support and farmer costs. These outcomes will result in a systematic and sustainable change in the way maize is stored in Timor-Leste and ultimately impact positively on human nutrition and health, and the country's balance of payments.

E. SCALING-UP

117. TLMSP is expected to be scaled-up after the end of Phase I in December 2014. Phase II will be implemented in the seven districts which are not involved in Phase I, and in those sub-districts in the five Phase I districts which were not fully covered during Phase I, with a continued focus on upland, rainfed maize growing areas and possibly an expansion into the storage of other staple foods. In addition there may be a slight expansion in the scope of Phase II to encompass some simple "add-ons", for example maize processing equipment and the use of surplus grain for small scale animal feeding.

118. By the end of Phase I it is expected that local private sector businesses will have established in-country drum/ storage container manufacturing facilities which are capable of responding to growing demand for this simple technology. Pilots using locally-manufactured drums are already underway but at present the product is not price-competitive. This should change with increased scale and further investigation of alternative technologies.

119. Phase I will develop the “drivers” needed for scaling-up, e.g. leadership in MAF and local champions in the form of Suco Councils and Chiefs who are experienced in organizing communities for drum delivery. The “spaces” required, e.g. political and policy will also be developed; and the pathways for scaled-up implementation will have been tested and refined. In addition, other development partners (in particular AusAID) have expressed interest in co-financing follow-on phases with IFAD.

TIMOR-LESTE
TIMOR-LESTE MAIZE STORAGE PROJECT
PROJECT DESIGN REPORT
ANNEXES

ANNEX 1: COUNTRY AND RURAL CONTEXT BACKGROUND

I. Introduction

1. IFAD does not have an existing Country Strategic Opportunities Paper (COSOP) for Timor-Leste. Therefore this annex is based on the current Government of Timor-Leste's (GoTL's) and donors' strategies for rural development, and more specifically strategies for the development of the dominant and crucial agricultural sector. Three quarters of the poor live in rural areas and the employment structure of Timor-Leste's economy is dominated by farming (about 70% of the population are subsistent farmers [Working Paper 1]).

2. During the past three years GoTL, donors, and bi- and multi-lateral development agencies have invested approximately US\$60 million per annum in agricultural development projects which focus on the Ministry of Agriculture and Fisheries' (MAF's) successive strategic plans and the Prime Minister's draft Strategic Development Plan (SDP) (April 2010)²⁵. Major donors to the agricultural sector include: (i) the European Commission (EC); (ii) the Australian Agency for International Development (AusAID); and (iii) the German Agency for Technical Cooperation (GIZ). Appendix 1 contains details on 27 such donor projects and programmes, and if relevant provides comments on how the Timor-Leste Maize Storage Project (TLMSP) will relate to and complement these development initiatives.

II. RECENT GOVERNMENT AND DONOR STRATEGIES

A. GOVERNMENT STRATEGIES AND POLITICAL OBJECTIVES FOR AGRICULTURAL DEVELOPMENT

3. As at the end of 2010²⁶, Timor-Leste's agricultural policy and strategy framework were governed by three key documents and one national priority: (i) the Prime Minister's draft national Strategic Development Plan (SDP) (released in April 2010); (ii) Axis 1 in the Rural Development Framework; (iii) MAF's 2004 Policy and Strategic Framework (still applicable); and (iv) Timor-Leste's National Priorities for 2010. Therefore it was logical for the design of agricultural development initiatives such as the TLMSP to be guided by the objectives specified in MAF's 2004 Policy and Strategic Framework.

4. The 2002 National Development Plan (NDP), the precursor to the Prime Minister's 2010 Draft SDP²⁷, laid down the vision for the agricultural, forestry and fisheries sub-sectors: *"to have by 2020 sustainable, competitive and prosperous agricultural, forestry and fisheries industries that support improved living standards for the nation's people"*. The key development indicators for the agricultural sector in the NDP, and which are relevant to TLMSP, include:

- Increased food production (the most critical indicator, measured as the overall amount of food produced and food production per household), rural incomes, per capita nutritional intakes and increased area (hectares) planted to new crop varieties;
- Higher proportion of irrigated land relative to total arable land and higher crop yields and productivity; and
- Higher income and employment among farmers and increased foreign exchange earnings from exports of quality agricultural and fisheries products.

5. MAF's Policy and Strategic Framework (2004) was, and still is (mid 2011), the general guiding policy document for the development of the sector. The policy document spells out objectives and corresponding implementation strategies for the ministry to contribute to the previous National Development Plan. The overall policy objectives (which remain directly relevant to TLMSP) are to:

- Improve the level of food security of the rural population and raise self-reliance;

²⁵ The Prime Minister released a final version of the SDP in July 2011, after the Detailed Design Mission (November 2010) and prior to the Final Design/ Appraisal Mission (July/ August 2011). Therefore this annex refers to both versions of the SDP. This is not considered to be a design issue as both versions of the SDP layout much the same vision for Timor-Leste's agricultural sector.

²⁶ This Working Paper was updated in August 2011 at the time of the Final Design/ Appraisal Mission.

²⁷ Replaced by the National SDP which was launched by the Prime Minister at the annual Timor-Leste Development Partner's Meeting (TLDPM) in July 2011.

- Increase value-adding of agriculture, forestry and fisheries products by fostering output processing and marketing;
- Contribute to the balance of trade by earning revenue from commodity exports and by substituting imports; and
- Increase income and employment in rural areas.

6. The following general guiding principles are spelt out in the policy:

- Secure availability of sufficient and affordable food;
- Enhance the capacities of rural communities for self-reliance;
- Deliver essential services to rural communities together with the private sector and non-governmental organisations;
- Introduce cost-recovery mechanisms over time where private benefits occur;
- Use participatory processes when working with communities; and
- Cater for the specific needs of women, children and disadvantaged groups.

B. POLITICAL OBJECTIVES FOR AGRICULTURE

7. The 4th Constitutional Government Program (9th September 2007) spells out the following broad objectives for the development of Timor-Leste's agricultural sector over a four year period²⁸:

Agriculture is the main economic activity in East-Timor. It is mainly subsistence agriculture, employing family labour with low productivity in a fragile natural environment. Therefore the broad objectives for developing the sector are to:

- Move from subsistence level to market agriculture;
- Change from small production to regional product specialization;
- Improve irrigation infrastructure to assure production, thus stimulating, in an irreversible way, agriculture development; and
- Reduce regional discrepancies through the rehabilitation of rural extension centres and roads, and the stimulation of markets.

8. **Priority Areas and Focus.** National Priorities (NPs) were established by the 4th Constitutional Government in 2008 and 2009, and this process is expected to be phased out as the 2011 version of the SDP is operationalized. NP 1 for 2009²⁹ focused directly on agricultural development and was: "increased domestic food production, and improved food security monitoring and response". The rationale behind this objective was: subsistence farming continues to be the main source of employment and income for the vast majority of the population; and agricultural productivity is low and needs to be boosted.

9. In 2009 MAF's broad role in rural development was defined in Axis 1 of the national Rural Development Framework which describes MAF's overall rural development responsibilities as: (i) Purpose - sustainable increases in nutrition and food security and reduced poverty for farm households and rural communities; (ii) Output 1 – farming and food production; (ii a) Output 1.1 – increased yield(s) and production of main foodcrops; (ii b) Output 1.2 – sustainable upland farming techniques integrated into upland farming systems; and (ii c) Output 1.3 – increased production of cash crops for domestic and export market(s).

10. The NPs for 2010 changed, and food security (with a focus on productivity) was NP No. 2. In terms of how the design of TLMSP might be influenced by these rolling national priorities, it is relevant to note that the overall goal for NP No. 2 is to *"increase foodcrop production, diversification and quality for rural incomes"*, and the key milestone against which progress will be measured is *"technical guidelines for on-farm storage for maize, rice and pulses are incorporated into MAF's extension strategy"*.

11. **National Strategic Development Plan.** In April 2010 when launching the Draft SDP the Prime Minister of Timor-Leste announced that 'there are at least three strategic sectors for economic growth

²⁸ Includes minor edits.

²⁹ Working Together to Build the Foundations for Peace and Stability and Improve Livelihoods of Timorese Citizens. 2009 National Priorities Program, Concept Note.

in the coming two decades: agriculture, petroleum and tourism’ and that ‘each of these requires a public investment program’. The Prime Minister’s focus on agriculture is highlighted by the following partial extracts from the draft SDP:

The agriculture sector employs around two-thirds of the economically active population The sector is remarkably promising, but in the past has underperformed. There is enormous potential in several areas: staple crops,..... Traditionally, Timor-Leste relied on low-input, subsistence methods..... The problem has been the lack of improved inputs....., reflected in the level of poverty of smallholder farm households.....Timor-Leste is now ripe for a Timor Green Revolution, in which the Government works with smallholder farmers to increase the use of inputs through..... modern technologies and the benefits of cutting-edge research.

12. The final version of the SDP launched by the Prime Minister in July 2011 retained this strong focus on the Nation’s agriculture sector... *“to achieve our primary goal of food security by 2020 and to expand our agriculture sector, we will improve our farming practices and take action to boost the production of specific crops”..... and “establish on-farm grain storage”.* These statements endorse TLMSP’s focus and confirm GoTL’s priority for improved on-farm maize storage.

13. **Cross-Cutting Issues.** MAF is in the process of finalizing and embedding a gender strategy within the ministry and preparing to use it as a guide for future equitable agricultural development (see Working Paper 4). However this process may not be completed by the time TLMSP commences. It is anticipated that women farmers and household heads will have major roles in the Project because women are responsible for food storage and preparation, whilst men are responsible for seed selection and storage.

C. DONOR STRATEGIES AND POLITICAL OBJECTIVES FOR AGRICULTURAL DEVELOPMENT

14. Numerous development partners continue to attempt to establish ‘strategic niches’ within MAF with some focusing on selected geographic areas (districts) such as the European Commission (EC)-funded Rural Development Programmes (RDPs) and others focusing on specific products, e.g. Portugal’s support for the coffee industry. This causes some confusion in MAF and makes implementation coordination and monitoring difficult. In addition, under this scenario the Ministry of Finance is tempted to limit MAF’s operational budget because there is a perception that the ministry is ‘over-supplied’ with bilateral support.

15. Key File Table (KFT) 4 in Annex 13 lists 27 agricultural development projects and programmes which are currently being implemented (or are under design) in support of GoTL’s agricultural development policies. Many of these activities have similar objectives, e.g. increased food production and rural incomes. However, implementation strategies vary considerably with some projects being implemented “independently” of MAF and others totally embedded within the Ministry, including use of MAF’s financial control and management systems. There is no one single and agreed strategy for agricultural development in Timor-Leste and this environment makes project planning difficult.

16. However there are a number of bilateral projects (other than Seeds of Life Phase III [SoL III]) with which TLMSP will need to cooperate. The most relevant are the three Rural Development Programmes (RDPs II, III and IV) which are/ will be funded by the EC and implemented by GIZ, Landell-Mills, and GIZ and PADRTL, respectively. RDP II and III are multi-product and multi-component district-based Programmes which use MAF’s Suco Extension Officer (SEO) system for delivery. RDP IV (due to commence in late 2011) will focus on building SEOs’ capacity and ability to engage with farmers and assist with a wide range of agricultural production activities throughout the country. Given that TLMSP will focus clearly on the farm household level it is logical for the Project to engage informally with the SEOs when working in Sucos which are also being assisted by the RDPs. However any resources required to increase the SEOs’ effectiveness will need to be supplied through the RDPs, not through TLMSP.

17. An assessment of the effectiveness of some of the larger projects listed in KFT 4 resulted in the identification of important lessons which have been factored into the design of TLMSP, including:

- (i) Avoid “complexity”, the temptation to add on complementary but small activities which might “round-out” the Project, but will not add significantly to benefits and are likely to result in more complicated implementation arrangements.

- (i) Focus on a low-risk and well-proven intervention (provision of drums for on-farm maize storage) which has the potential to generate high and immediate impacts for target beneficiaries.
- (ii) Select a development intervention which is culturally acceptable (drums have been used to store maize and other food crops in Timor-Leste for more than 25 years in some villages).
- (iii) Ensure that the selected development intervention is highly complementary with other projects. For example SoL III which will distribute seed of an improved maize variety, Sele. The availability of improved maize storage at farm level is therefore likely to increase the adoption of this variety by farmers.
- (iv) Learn from Care International's considerable experience with the importation of large numbers of 200L petroleum drums, and distribution to poor maize-growing households (Care imported 6,000 drums in mid-2010).
- (v) Base the design on the use of participatory mechanisms for Project delivery which can be embedded in existing GoTL and village-level structures. Therefore TLMSP intends to work through GoTL's decentralized government administration (from district down to sub-district, working with District and Sub-district Administrators) and local community structures (working with Suco and Aldeia Chiefs) as the mechanism through which to socialize, promote and organize the delivery of maize storage drums, with assistance from Project-funded District Coordinators and Facilitators. The design does not duplicate existing GoTL State Administration staffing structures, or local community structures or systems.

III. COUNTRY DATA SHEETS

18. All major donors and development partners produce country data sheets for Timor-Leste. Unfortunately these tend to be inconsistent and some-what dated because of the difficulty in collecting and collating hard and reliable statistics on the country's economy and economic growth. Therefore Appendix 2 contains Country Data Sheets prepared by the World Bank and the Asian Development Bank; and a recent "East Asia and Pacific Economic Report (2010, Vol. 2) also prepared by the World Bank.

Appendix 1: List of Related Projects and Programmes

1. Table 1 lists on-going and planned rural development projects and programmes in Timor-Leste, by district. It shows that two of the TLMSP targeted districts have very little support – Manatuto and Viqueque. The most important projects in terms of complementarity and learning from implementation lessons are: (i) Seeds of Life Phase III (\$27.50 million, commencing in early 2011), which breeds and distributes seeds of improved food crop varieties including Sele (a maize variety which results in yield increases of 50% across Timor-Leste); (ii) Drums on Farms, a local NGO which has been distributing 200L drums to maize-growing families in Liquica; and (iii) Care's Local Initiatives for Food Security Transformation Project (LIFT), which is EC-funded and uses 200L drums for seed and food storage. Care recently imported and distributed 6,000 200L used, clean fuel drums. Further details on these projects and programmes are provided in the Key File Table 4 in Annex 13.

Table 1: On-going and Planned Rural Development Projects/Programmes, by District

Farming and Food Production Projects	National	Ainaro	Aileu	Baucau	Bobonaro	Covalima	Dili	Ermera	Lautem	Liquica	Manufahi	Manatuto	Oecusse	Viqueque
1. Seeds of Life Phase III	A													
2. Drums on Farms										A				
3. PADRTL RDP			A		A	A		A		A	A			
4. Oxfam - Food Security Programme						A							A	
5. World Neighbours - Food Security													A	
6. Concern - Food Security Program									A		A			
7. CCF - Food Security					A				A			A		
8. CARE - Food Security Project										A				
9. World Bank – Ag Productivity	A													
10. USAID – Economic Rehabilitation		A					A			A				
11. JICA - Irrigation Project Manatuto											A			
12. JICA - Irrigation Rehab Maliana					A									
13. FAO - Food Prices Project	A													
14. Spanish – Food Security/Post Crisis				A										
15. NZAid – Post Harvest Losses	A													
16. JICA – Support for Coffee Growers		A												
17. ACIAR - Livestock Dev. Project	A									A				
18. Spanish – Rural Dev. in Liquica														
19. AusAID – Biosecurity	A													
20. EC- RDP II											A			
21. EC – RDP III														
22. EC – RDP IV (commence in 2011)														
23. GTZ – Rural Development Program					A									
24. JICA – Community Watershed							A				A			
25. JICA - One Village One Product		A		A			A			A				
26. Various Donors – Food & Nutrition		A												
27. UNDP – Sustainable Land Manag't	A													

Appendix 2: Country Data Sheets

World Bank

Timor-Leste at a glance

12/9/09

POVERTY and SOCIAL	Timor-Leste	East Asia & Pacific	Lower-middle-income
2008			
Population, mid-year (millions)	1.1	1,931	3,702
GNI per capita (Atlas method, US\$)	2,460	2,631	2,078
GNI (Atlas method, US\$ billions)	2.7	5,081	7,692
Average annual growth, 2002-08			
Population (%)	3.9	0.8	1.2
Labor force (%)	5.6	1.2	1.6
Most recent estimate (latest year available, 2002-08)			
Poverty (% of population below national poverty line)
Urban population (% of total population)	26	44	41
Life expectancy at birth (years)	61	72	68
Infant mortality (per 1,000 live births)	75	22	46
Child malnutrition (% of children under 5)	41	13	26
Access to an improved water source (% of population)	62	87	86
Literacy (% of population age 15+)	..	93	83
Gross primary enrollment (% of school-age population)	107	111	109
Male	110	112	112
Female	103	110	106

Development diamond*

Life expectancy

GNI per capita

Gross primary enrollment

Access to improved water source

Timor-Leste

Lower-middle-income group

KEY ECONOMIC RATIOS and LONG-TERM TRENDS	1988	1998	2007	2008	
GDP (US\$ billions)	0.40	0.50	
Gross capital formation/GDP	
Exports of goods and services/GDP	
Gross domestic savings/GDP	
Gross national savings/GDP	
Current account balance/GDP	173.1	172.5	
Interest payments/GDP	
Total debt/GDP	
Total debt service/exports	
Present value of debt/GDP	
Present value of debt/exports	
	1988-98	1998-08	2007	2008	2008-12
(average annual growth)					
GDP	..	1.9	7.8	13.2	-2.6
GDP per capita	..	-1.8	4.2	9.6	-5.7
Exports of goods and services

Economic ratios*

Trade

Domestic savings

Capital

Indebtedness

Timor-Leste

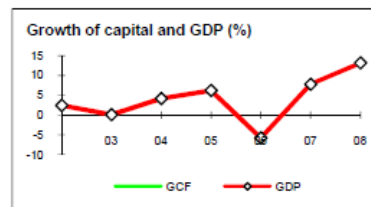
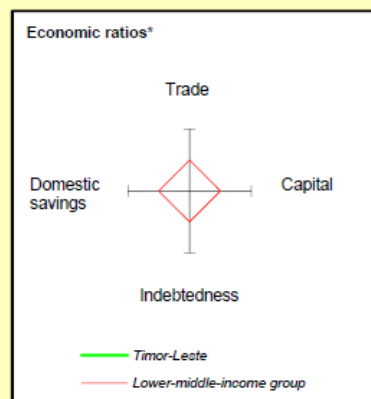
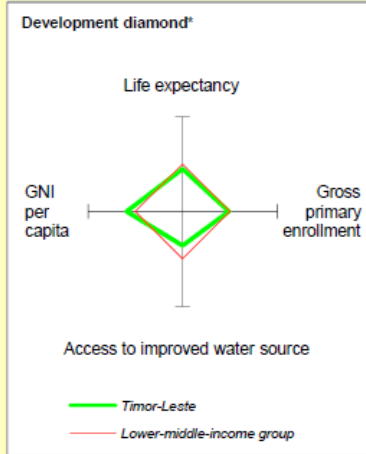
Lower-middle-income group

STRUCTURE of the ECONOMY	1988	1998	2007	2008
(% of GDP)				
Agriculture
Industry
Manufacturing
Services
Household final consumption expenditure
General gov't final consumption expenditure
Imports of goods and services
	1988-98	1998-08	2007	2008
(average annual growth)				
Agriculture
Industry
Manufacturing
Services
Household final consumption expenditure
General gov't final consumption expenditure
Gross capital formation
Imports of goods and services

Growth of capital and GDP (%)

GCF

GDP



Note: 2008 data are preliminary estimates.

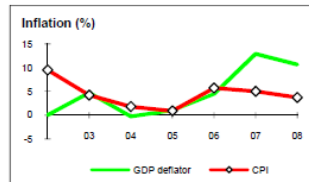
This table was produced from the Development Economics LDB database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

Timor-Leste

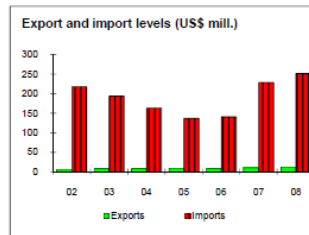
PRICES and GOVERNMENT FINANCE

	1988	1998	2007	2008
<i>Domestic prices</i>				
(% change)				
Consumer prices	5.0	3.7
Implicit GDP deflator	12.9	10.7
<i>Government finance</i>				
(% of GDP, includes current grants)				
Current revenue	183.9	207.3
Current budget balance	148.4	176.9
Overall surplus/deficit	141.1	162.9



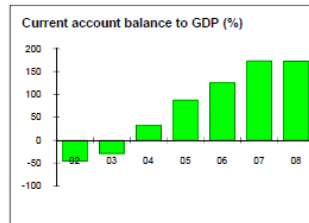
TRADE

	1988	1998	2007	2008
<i>(US\$ millions)</i>				
Total exports (fob)	10	12
Oil and gas	8	..
n.a.
Manufactures
Total imports (cif)	229	252
Food
Fuel and energy
Capital goods
Export price index (2000=100)
Import price index (2000=100)
Terms of trade (2000=100)



BALANCE of PAYMENTS

	1988	1998	2007	2008
<i>(US\$ millions)</i>				
Exports of goods and services
Imports of goods and services
Resource balance	-269	..
Net income	149	..
Net current transfers	808	..
Current account balance	688	859
Financing items (net)	-2	..
Changes in net reserves	-686	..
<i>Memo:</i>				
Reserves including gold (US\$ millions)
Conversion rate (DEC, local/US\$)	1.0	1.0



EXTERNAL DEBT and RESOURCE FLOWS

	1988	1998	2007	2008
<i>(US\$ millions)</i>				
Total debt outstanding and disbursed
IBRD
IDA
Total debt service
IBRD
IDA
Composition of net resource flows				
Official grants
Official creditors
Private creditors
Foreign direct investment (net inflows)
Portfolio equity (net inflows)
World Bank program				
Commitments
Disbursements
Principal repayments
Net flows
Interest payments
Net transfers

Note: This table was produced from the Development Economics LDB database.

12/9/09

Asian Development Bank

Democratic Republic of Timor-Leste

A large expansion in government expenditure and increased agriculture production lifted economic growth to an estimated 10% in 2008. Public spending, funded by revenue from offshore petroleum production, will continue to rise this year and keep economic growth high. Inflation is expected to ease. However, a rise in poverty points to the need for better targeted government spending to address a lack of basic services and rural underdevelopment.

Economic performance

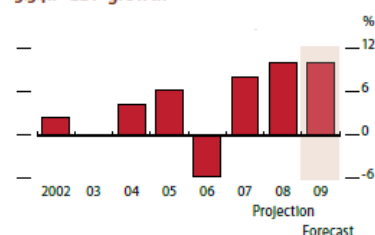
Expansion of public spending programs funded by revenue from offshore petroleum production spurred the economy in 2008. Actual government expenditure more than doubled from 2007 to reach an estimated \$450 million. This lifted the ratio of government expenditure to GDP to the order of 100%, excluding petroleum and the United Nations (UN) contribution to government operations.

About 2,000 international security and police personnel are still in Timor-Leste, under the auspices of the UN, to support law and order following outbreaks of civil unrest, including extensive unrest in 2006 and attacks on the president and prime minister in early 2008. These international forces, combined with civilian support and a large donor presence, provide an important source of demand in the economy. Economic activity was also supported over the year by an improved political and security situation, one that, though generally calm, remains fragile.

Agriculture, which accounts for about 85% of employment, recovered after being hit in 2007 by bad weather. An increase in the harvested area saw rice production rise by 21% such that it met about 40% of annual requirements (100,000 metric tons). The public sector accounts for around half the employment outside agriculture. Wholesale and retail trading and other private services (petroleum operations are entirely offshore), engage much of the rest of the working population. Non-petroleum, non-UN GDP grew by an estimated 10% in 2008 (Figure 3.34.1).

The surge in international commodity prices in 2008 propelled inflation to as high as 10.6% in June, year on year (Figure 3.34.2). Inflation then eased as the international price of crude oil and other commodities declined, putting the year-end rate at 7.6%. The Government increased subsidies for imported rice in 2008, and this suppressed the impact of higher international food prices (Figure 3.34.3). Nevertheless, around half the inflation last year was attributable to higher food prices (food accounts for 58% of the consumer price index). Most of the increase in

3.34.1 GDP growth

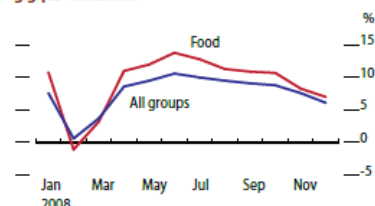


Note: Non-petroleum, non-UN GDP.

Sources: Government of Timor-Leste, General Budget of State 2006–07 and 2008.

[Click here for figure data](#)

3.34.2 Inflation



Source: Timor-Leste National Directorate of Statistics, Consumer Price Index December Quarter 2008.

[Click here for figure data](#)

This chapter was written by Craig Sugden of the Pacific Department, ADB, Manila; and Tony Ryan, consultant.

food prices was in turn a result of higher prices of rice, corn, and other cereals, as well as cassava and other root crops.

Strong growth in domestic demand was evident in a large rise in imports. Merchandise imports rose from \$68.6 million in the first half of 2007 to \$89.9 million in the first half of 2008. Excluding the offshore petroleum operations, merchandise exports (mainly coffee) are a small fraction of imports. Even after a bumper coffee harvest, merchandise exports totaled just \$11.6 million in 2008.

Loans and advances by commercial banks leveled off in 2008, suggesting slower growth in private business activity (Figure 3.34.4). Broad money supply rose by 33.1% as the international forces increased deposits with the banking system. The shortage of lending opportunities saw the commercial banks' liquid asset ratio rise to 79.4% by end-2008 from 71.3% a year earlier. Nonperforming loans remain a problem for the banks, even though their ratio to total loans eased to 28.2% by end-2008 from 30.2% at end-2007.

Access to microfinance is largely limited to loans secured by public sector salaries. This hampers development of agribusiness, in particular, because loans are not generally available for the purchase of rural products. The poor pay very high rates of interest to money lenders, estimated at up to 25% a month.

The Government made transfer payments totaling around \$100 million in 2008. These included subsidies for the aged and the vulnerable, pensions for former public office holders, and pensions for ex-combatants. It also paid people to return to their villages from temporary camps (more than 10% of the population was displaced by the 2006 violence). These payments supported consumption and helped achieve civil stability. However, outbreaks of civil strife remain a risk, as highlighted by heightened tension following the serious wounding of the president in a February 2008 attack.

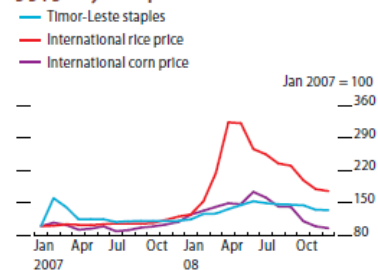
Economic prospects

The economy will remain dominated by government activities over the medium term. Almost all the Government's own revenue is drawn from the Petroleum Fund, which receives income from the nation's offshore petroleum production. The Petroleum Fund more than doubled in value to an estimated \$4.2 billion by end-2008, almost all invested in United States (US) government securities. The use of the US dollar as the national currency protected Timor-Leste from adverse exchange rate effects.

Prior to 2008, drawdowns from the Petroleum Fund were limited to its "sustainable income," so that the Fund's capital would be maintained indefinitely. The Government budgeted to draw down more than the sustainable income in 2008, a decision that led to intense political debate. While the actual drawdown did ultimately match the end-year estimate of sustainable income, budgeted drawdowns for 2009 and 2010 are well above that rate.

The 2009 budget increases government expenditure to \$902 million, almost double the 2008 estimate of non-petroleum, non-UN GDP. Much of the additional expenditure is for imported goods (including capital goods) and services, and so there will only be a muted effect on

3.34.3 Key food price indexes



Note: Timor-Leste price index for cereals, roots, and their products; Bangkok rice price; and US (gulf ports) corn price shown.

Sources: Timor-Leste National Directorate of Statistics, Consumer Price Index December Quarter 2008; International Monetary Fund, International Financial Statistics online database, downloaded 4 February 2009.

[Click here for figure data](#)

3.34.4 Lending indicators



Source: Banking and Payments Authority.

[Click here for figure data](#)

3.34.1 Selected economic indicators (%)

	2009	2010
GDP growth	10.0	8.0
Inflation	7.1	6.5
Current account balance (share of GDP)	-	-

Source: Staff estimates.

GDP growth. The most direct impact on the economy will be from a further increase in public sector wages and salaries, which have almost tripled over 3 years. The Government also plans substantial spending on electrification (Box 3.34.1).

Non-petroleum, non-UN GDP is expected to grow by a further 10% in 2009, supported by a February 2009 decision of the UN Security Council to extend for at least 12 more months to February 2010 the UN Mission and international security presence. Nevertheless, civil unrest remains a downside risk for growth over the medium term. GDP growth is expected to ease in 2010 as budgeted declines in government expenditure feed through the economy (Figure 3.34.5). The actual outcome will rest on budget disbursement rates, which have been low (but increasing) in recent years because of difficulties in project planning and delays in procurement. Inflation is expected to ease in the forecast period to about 7.1% in 2009 and 6.5% 2010, as global food price inflation slows from 2008 levels.

Development challenges

The positive outlook for key economic aggregates masks deep poverty. The share of the population living below the poverty line increased from about 36% in 2001 to about 50% in 2007, according to the nation's second poverty study. Poverty is largely a rural problem (three quarters of the poor live in rural areas), although its incidence also is rising in towns. The Food and Agriculture Organization and World Food Programme have estimated that 30% of the population, for at least 2 months each year, lives on a diet that is insufficient to meet basic human needs. Food shortages arise from low agricultural output, high post-harvest cereal losses (up to 90% in upland corn), distortionary food subsidies, limited market access, and the very few alternative means of earning incomes in rural areas.

Low rural incomes, high population growth rates, rapid urbanization, and the after-effects of civil unrest are major challenges. The quality of government expenditure will be central to responding to them and to setting Timor-Leste's development path. The expansion in expenditure now under way has the potential to share the rapidly accumulating financial wealth with the population. Well-managed spending can generate additional wealth by converting low-return savings in financial instruments into high-return investments in human and physical capital.

More could be done to raise development returns from public expenditure. For example, the subsidization of imported rice shielded many people from rising international prices, but it also suppressed prices received by domestic growers. This damped a much-needed supply response from farmers, and consequently held down growth in their incomes.

Furthermore, the subsidies benefit the better-off more than the poor, as the better-off consume more rice and the poor rely more on corn and cassava. A government decision to hold 2 years of rice imports in storage as a buffer against price hikes will have similar side-effects, suppressing farm production and rural incomes. One alternative would be cash transfers to the poor. This approach would enable them to buy rice when the price rises and to pass on to farmers the benefit of the higher prices.

3.34.1 Electrification

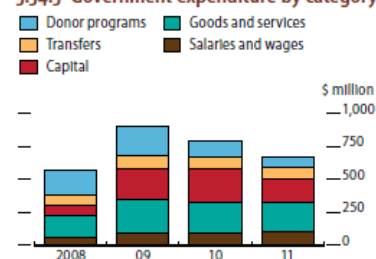
More than half the \$616 million capital expenditure budgeted in 2009–2012 is to be spent on building power stations fueled by imported oil to electrify urban (and later rural) areas. The Government has contracted to install 180 megawatts (MW) in generating capacity by end-2010, with supporting transmission and distribution lines. This represents a very large increase on current capacity of 40 MW.

This electrification program was announced in mid-2008 and the contracts were signed by year-end. A longer preparation phase would have been helpful to allow a fuller consideration of development issues involved.

A key issue is whether the supply expansion will outstrip demand—a 2004 power sector study found the country needed 50–100 MW of additional capacity by 2025 to lift the electrification rate to 80% from 20%. Another issue is whether electrification should be such a high budget priority.

Electricity is a service that can be at least partly self-funded from user charges. But because services such as law and order, road maintenance, and education and health services for the poor generally cannot be self-funded, they should be the priority for budget resources.

3.34.5 Government expenditure by category

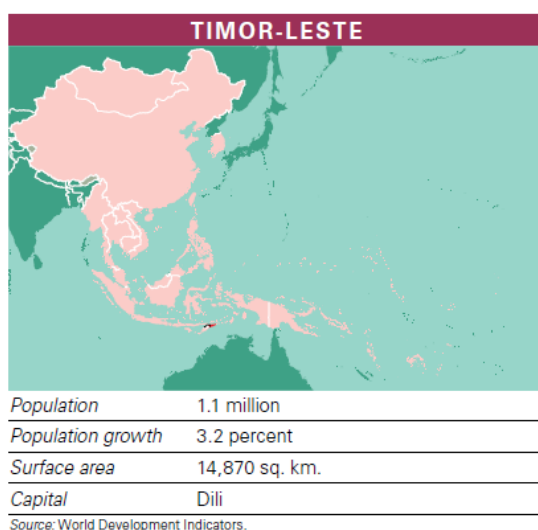


Sources: Government of Timor-Leste, General Budget of State 2006–07 and 2008; Directorate of Treasury, Ministry of Planning and Finance, Democratic Republic of Timor-Leste Annual Financial Report and Accounts 2005–06 and 2006–07; staff estimates.

[Click here for figure data](#)

World Bank East Asia and Pacific Economic Update (2010, Vol. 2)

82 COUNTRY PAGES AND KEY INDICATORS



Economic activity has remained strong on the back of government spending, though inflation has started to pick up largely due to higher food prices. There are also signs of increased costs in the construction sector, which are likely associated with the rise in infrastructure spending. Aggregate demand has remained strong, although it may have slowed a little in the first half of 2010. Recent estimates point to a drop in poverty incidence in 2009 compared to 2007, when poverty had spiked following economic contraction in 2006. The Petroleum Fund balances are robust and continue to provide a good buffer against potential shocks. Fiscal policy continues to be expansionary in response to development needs. This will need to be managed carefully to avoid risks to fiscal sustainability.

The government estimates non-oil GDP growth in 2009 amounted to 12.7 percent. Government expenditures increased by about 20 percent, with capital expenditures up 38 percent. An important part of the latter reflected outlays on small-scale infrastructure projects across the country. Spending eased in the first half of 2010 compared to the previous six months, particularly on capital projects. An extended rainy season is likely to have adversely impacted agriculture production after a

strong performance in 2009. Although some indicators (e.g., electricity consumption) suggest continued strong demand, a combination of the former factors may have resulted in a slowdown in growth in the first half of 2010.

There are signs that in 2009 private consumption increased, including among poorer households. A recent estimate by the World Bank shows poverty incidence for 2009 at 41 percent. This suggests a drop of around 9 percentage points compared to 2007, when poverty incidence had risen very sharply following the crisis and subsequent economic shock. The rebound is likely associated with strong economic recovery, including increased private consumption linked to rapidly rising government spending, particularly on social protection programs and labor-intensive infrastructure works. Final confirmation on poverty developments will need to be based on updated household surveys, which are planned over the course of 2011.

Prices have started to pick up in 2010, with headline inflation in Dili at 6.6 percent in the year to June, and food price inflation at 8.5 percent over the same period. Prices of cereals in particular rose rapidly in the first half of 2010 (14 percent in the year to June), in line with international price movements. The government at the same time increased provisions for rice subsidies in its 2010 budget revision. Non-food prices have remained relatively stable, although official statistics show a very sharp increase in house building costs, which are most likely related to the supply pressures associated with the rapid increase in public investment in 2009. The rise in inflation has led to an appreciation of the Real Effective Exchange Rate in the first half of 2010. This will not have had a major impact on non-oil exports, which are small and constrained by other factors.

Credit to the private sector has dropped slightly in the first half of 2010, after a 40 percent increase in lending to the construction sector in the latter half of 2009. Total loans and advances fell from \$111 million in December 2009 to \$107 million in June 2010. Non-performing

loans have increased from around \$30 million in the first half of 2009 to around \$45 million in June 2010. This may be associated with the rapid increase in lending to the construction sector. This does not pose systemic risk, nor has it impacted significantly on the spread between lending and deposit rates, which remains high at around 10 percent.

The trade deficit in the first half of 2010 was 15 percent lower from a year earlier due to a fall in imports of consumer goods. The volume of coffee exports, however, also fell in half in January-June 2010 because of an extended rainy season. The volume of coffee exports picked up in the second quarter of 2010, as did coffee prices in line with international prices. This led to a recovery in non-oil export earnings in the second quarter, which should continue over the course of 2010.

The overall balance of payments remains strong thanks to petroleum receipts. Official statistics show the current account recorded a surplus of nearly \$1.4 billion in 2009. Taxes and royalty receipts were slightly higher in the first half of 2010 (\$971 million) compared to the same period last year (\$934 million). Receipts related to the investment performance of the Petroleum Fund improved compared to the same period last year. Petroleum Fund assets were close to US\$6.5 billion at the end of August 2010. The government is exploring options to diversify the Petroleum Fund assets to secure higher returns over the longer term.

Spending appropriations for 2010 were increased from US\$660 million to US\$838 million under the revised budget. The increase includes \$31 million for a new program of small-scale infrastructure works (Decentralized Development Package) following up last year's Referendum Package. Other major increases include an additional \$26 million for veterans, \$37 million for the power sector, and about US\$18 million for rice imports. The increase in planned expenditure for 2010 also means higher planned withdrawals from the Petroleum Fund of about \$811 million, or \$309 million

above the Estimated Sustainable Income. Less than 10 percent of the capital and development budget had been executed in the first half of 2010, which could be due to a combination of supply constraints following the scale up last year, and possible delays in procurement after some institutional changes introduced earlier in the year. Over the medium term, the role of fiscal policy remains critical, especially given the absence of monetary policy because of the official dollarization. The challenge for fiscal policy remains to ensure adequate resources for economic development are provided in a transparent and fiscally sustainable manner.

The government is finalizing its Strategic Development Plan, which envisages further scaling up of public investment in both physical and human capital. The government is looking at ways to address weaknesses in designing and implementing projects, while ensuring speedy delivery. To this end, the government is establishing an Economic Policy and Investment Agency. It is also exploring different financing options including borrowing, and the potential for public-private partnerships.

ANNEX II: POVERTY, TARGETING AND GENDER

IV. BACKGROUND

1. In 2010, 70.4% of Timor-Leste's fast growing population (2.41% per year) lived in rural areas³⁰. Based on World Bank predictions, 41%³¹ of the total population (1,066,582 in 2010) were below the poverty line of \$0.88 per day (Working Paper 2: Rural Poverty in Timor-Leste). The Timor-Leste Survey of Living Standards³² data show that the poverty incidence in Timor-Leste increases with household size, and that for any given household size, the incidence of poverty is higher for female-headed households, which represent about 10% of the population, with much the same proportion in rural and urban areas.

2. Geographically, it is in the upland rainfed areas where the majority of the rural poor live and subsist. Lowland rice growers tend to be more food-secure than upland farmers because of their access to higher quality agricultural resources and support, particularly irrigation water. The fundamental cause of poverty in Timor-Leste is the overwhelming dependence of the population on the farm sector; the nation's most important economic sector and which contributes more than 90% of the value of non-oil exports. The sector is characterized by very low productivity and accounts for 88% of the poor amongst the employed³³.

3. With the objective of alleviating poverty and food insecurity amongst remote and upland farmers, the biggest challenge for the agricultural sector is to increase the availability of the main staple crops³⁴. The reported "hungry season" usually extends from November to February and causes heavy reliance on tubers (cassava, taro, kontas and sweet potato), additional purchase of staple crops if cash income is available and/or the reduction of meals per day. Effects of these coping strategies are clearly reflected in the 2009/2010 Demographic and Health Survey³⁵. Data showing that 58% of children under five are stunted and that nearly one in two children (45%) is underweight, are strong indicators of acute and chronic under-nutrition.

4. The underlying causes of food insecurity include low yields of staple crops, vulnerability to unfavourable seasonal and natural disasters, lack of cash incomes to purchase food during periods of shortfall, post-harvest losses, and low distributional capacity. Given the high correlation between poverty and maize production (and maize storage losses of approximately 15%) it is logical that the focus of the Timor-Leste Maize Storage Project (TLMSP) is improved on-farm maize storage. Principal causes of grain losses under traditional storage conditions (storage in trees or farmers' houses) are rodent and weevil attacks (Working Paper 3).

5. Food insecurity is a recognized major national problem and it will require concerted efforts by the Government of Timor-Leste (GoTL) and development partners to improve living conditions. In addition to the National Priorities process, the Prime Minister's Strategic Development Plan³⁶ intends to create basic conditions for development in the areas of agricultural productivity and food self-sufficiency. GoTL's response to food shortages has been to import rice and sell it at a subsidized price. Without taking into account the negative impact this has on local production, field visits by the during the design process revealed that the price differential between urban and rural rice prices is large. The rural poor pay up to \$0.70/kg, compared with the "fixed" maximum retail price of \$0.34/kg which was set by GoTL in 2009.

³⁰ Population and Housing Census 2010, Preliminary Results, Ministry of Finance and supported by UNFPA; October 2010;
<http://dne.mof.gov.tl/published/Census%20Preliminary%20Results%202010/English%20Census%20Preliminary%20Results%202010.pdf>.

³¹ <http://siteresources.worldbank.org/INTTIMORLESTE/Resources/tlpovertynote.pdf>.

³² TLSLS 2007 – "Poverty in a Young Nation".

³³ World Bank: Technical Assistance for Rural Development in Timor-Leste; Draft Policy Paper: A New Strategy for Food and Cash Crop Production in Timor-Leste; Annex 1: Draft Sector Analysis

³⁴ Maize comprises about 60% of total cereal production in Timor-Leste

³⁵ Timor-Leste Demographic and Health Survey 2009-2010; Preliminary Report; April 2010;
http://pdf.usaid.gov/pdf_docs/PNADS263.pdf.

³⁶ Timor-Leste's (draft) Strategic Development Plan 2011-2030; http://timor-leste.gov.tl/wp-content/uploads/2010/04/Sumario-SDP-Final_ingles.pdf.

V. TARGET GROUPS

6. The characteristics of the three major groups amongst the rural poor in Timor-Leste are summarized in Table 1. These were used to define the specific target group for TLMSP.

Table 1: Types of poor rural groups in Timor-Leste

	Slightly better off ~1-5% of rural poor	Economically active poor ~75% of rural poor (TLMSP Target)	Vulnerable ~20-24% of rural poor
Household members	<ul style="list-style-type: none"> • Rice and maize growing farmers • Children are (e.g.) civil servants, carpenters, mini-bus drivers or work for NGOs 	<ul style="list-style-type: none"> • Small farmers engaged in agriculture • Depend predominantly on maize, but remain poor • Many children (and many not in school) 	<ul style="list-style-type: none"> • Widows/widowers • Elderly • Disabled • Former internally displaced persons
Living / housing conditions	<ul style="list-style-type: none"> • Slightly better housing conditions (solid house, zinc roof) • Have no concern about food all year round • Employ people to work on their farms (e.g. a rice farmer) 	<ul style="list-style-type: none"> • Average housing conditions (semi-solid; grass or [donated] zinc roof) • Food insecure • Work for themselves, employ some farm labour for food, and/or work on other farms • Zero/limited access to roads, markets, etc. • Live in remote and/or isolated areas 	<ul style="list-style-type: none"> • Do not own a house, or live in very basic housing conditions • Live in houses of other family members • Very food insecure • Work on other farms • Zero/very limited access to roads, markets etc. • Live in very remote and/or isolated areas
Source of income	<ul style="list-style-type: none"> • Kiosk/small shop • Civil servants (teachers, police) • Traditional leaders • Sell corn, coffee etc. 	<ul style="list-style-type: none"> • Zero or low cash incomes (sell vegetables and/or some maize) • Temporary NGO workers 	<ul style="list-style-type: none"> • Recipients of support from Ministry of Social Solidarity, e.g. food support, Bolsa de Mãe, social housing
Assets	<ul style="list-style-type: none"> • Motorbike, car • Tractor, tools etc. • Livestock (buffaloes / cattle) • Bigger-sized farm plot 	<ul style="list-style-type: none"> • No car or motorbike • Very few agricultural inputs (seeds, tools [maize shellers]) • Few animals (no more than five buffaloes/ cattle) • Smaller-sized farm plots 	<ul style="list-style-type: none"> • No major assets • No animals (buffaloes/ cattle) • Smaller-sized farm plot but experience difficulty cultivating and harvesting

Source: prepared by the Detailed Design Mission; information collected during field trips.

7. While focusing on rural farmers living in poverty and food insecurity, the design identified the “economically active poor” as the group which could benefit most from improved on-farm maize storage practices. These households are poor small farmers engaged in agriculture with zero or very low cash incomes. If available, this income is generated by selling vegetables or some of their maize harvest. Their major staple crop is maize which is stored in the traditional way. Other difficulties faced by this group of upland maize farmers are that they have restricted market access and live in remote and/or isolated dwellings. Families in this group also report difficulties in accessing agricultural inputs (seeds and tools, i.e. maize shellers) which limits the possibility of increased food production.

8. Field visits confirmed that despite existing knowledge of improved storage options (including correct maize drying techniques, use shelling tools, and the concept of airtight storage) farmers generally do not have drums because they are not available in markets or are prohibitively expensive. Interviewed households confirmed that the low-risk and well-proven intervention of using drums for maize storage is accepted by the Timorese population as a way of alleviating food insecurity, and people know that this system prevents the high storage losses which occur when maize is stored in traditional ways. Moreover, the few households who own drums (purchased during Indonesian times) report good experiences and results with their use.

VI. GENDER PERSPECTIVES

9. Food storage in Timor-Leste is a family-led decision in which both women and men are involved. Women take primary responsibility for household food preparation and consumption sharing amongst family members. A recent study substantiated that many agricultural tasks (i.e. maize storage) are the joint responsibilities of women and men³⁷. These findings are supported by the gender policy of the Ministry of Agriculture and Fisheries³⁸, which states the need for joint participation of women and men in training on food security management. TLMSP is thus in line with GoTL's policy as the Project will provide improved food storage technology (maize storage drums) to both rural women and men.

10. The appropriateness of drum technology and ease of handling from a women's perspective were considered when meeting with farmers and their wives who had prior experience with drums. The conclusions were that a standard 200L drum presents no major management problems for maize-growing households, and there are no issues related to drum use which discriminate against women. Drums are usually stored inside or outside the house (under house eaves) and male family members assist women to open drums to access stored maize.

11. Given that food storage was is a topic in which both women and men play strong roles, it was concluded that no major gender mainstreaming measures need to be taken into consideration, other than to ensure that the detailed steps listed in Annex 5 (Implementation) include enabling measures to specifically reach and assist female-headed households. Accordingly, the Project will place special attention on encouraging women's participation in all activities related to drum promotion and usage training. Furthermore the Project will strive to achieve an appropriate gender balance when recruiting District Coordinators and Project Facilitators as this will facilitate the envisaged frequent interaction with female household members and female-headed households.

12. With the aim of addressing the major national challenge of food insecurity, TLMSP will empower poor rural farmers by providing airtight drums for on-farm maize storage at the household level. When target households can store maize for longer periods the "hungry season" will be less severe and, ultimately stored surpluses can be sold when prices are high. Another feature of the Project is its complementarity with other projects. In particular, Seeds of Life Phase III (SoL III) which will distribute seed of an improved maize variety (Sele, which has substantial yield advantages over local varieties – 50%) throughout the country. This will lead to increased maize production which, in combination with drums, can be stored and thus used by farmers when required for consumption or sale.

VII. TARGETING STRATEGY

13. The purpose of the Project's targeting strategy is to enhance impact amongst poor upland maize farmers by ensuring they have the opportunity to benefit from and participate in Project-supported activities. The core principles which underlie the Project's targeting strategy include participation, consultation, and demand-driven interventions. Gender considerations have been mainstreamed throughout the design and measures included to ensure that female-headed households are afforded equal opportunity to participate.

14. The principal targeting mechanisms used by TLMSP are: (i) geographic targeting - selecting districts and sucos based on poverty incidences and agro-ecological suitability; (ii) target group selection; and (iii) direct targeting - identifying drum-eligible and interested households with support from local government structures.

15. Other targeting measures include: (i) enabling measures - raising awareness (amongst District Administrators, Sub-District Administrators, and Suco Council members; Ministry of Agriculture and Fisheries [MAF] staff; and civil society representatives) regarding the Project's commitment to equitable food insecurity reduction, and ensuring that female-headed households are afforded equal opportunities to participate in and benefit from the Project; (ii) ensuring that the Project Management Unit, District Coordinators and Project Facilitators have a demonstrable commitment and capacity with regard to pro-poor development and gender equality; (iii) empowerment measures - empowering rural poor and especially women to participate in community sensitization and awareness raising activities,

³⁷ Gender Baseline Study; Rural Development Project Liquica District II; December 2010.

³⁸ Gender Policy; Ministry of Agriculture and Fisheries; 2009; not yet finalized.

and training drum recipients in drum use and maize drying techniques; (iv) self-targeting measures - collecting a financial co-contribution and relying on self transport of drums to homes; and (v) monitoring and evaluation to assess Project impact.

A. GEOGRAPHIC TARGETING

16. The Project will initially target the economically active poor in Aileu District, (Year 1), Manufahi and Manatuto Districts (Year 2), and Ainaro and Viqueque Districts (Year 3). Sixty-seven per cent of the households in these districts live below the national poverty line and maize is grown as an important staple. The first four districts are in the Central Region where poverty is most concentrated and maize is grown as an important staple. Viqueque has a lower level of poverty (40%) but is a major maize growing area. In addition to the poverty incidence, information on food insecurity in Timor-Leste also indicates that the remote and upland farming households are most affected by food shortages.

17. Based on the outcomes from general geographic targeting, the final target sucos will be identified in consultation with key local stakeholders (i.e. District and Sub-District Administrators, and Suco and Aldeia Chiefs). In order to determine the final number of target households it is recommended that detailed targeting consultations be completed as soon as implementation commences (expected to be in early 2012). This will involve visits to the target districts and a series of meetings with GoTL district and sub-district staff and local community leaders to identify those sub-districts and sucos which do not comply with the Project's targeting criteria, e.g. sucos which rely on irrigated rice production – see Table 1 which lists (in the right- and left-hand columns) those households which are expected to be excluded from the Project.

B. TARGET GROUP SELECTION

18. It is estimated that the Project will directly benefit about 65% of rural households in the five target districts, representing 18% of all rural households nation-wide (Working Paper 6: Financial and Economic Analyses), or approximately 23,000 rural households. The Project will directly target the “economically active poor” who are small-scale maize producers and can best-benefit from maize storage drums from amongst the various groups of rural poor (see Table 1). The needs of particularly vulnerable households will be better-met through other development interventions and direct GoTL support.

C. DIRECT TARGETING

19. The Project will make use of a community-based targeting mechanism (Working Paper 5: Institutional and Community Structures) for the pre-identification of potential drum beneficiaries. Therefore it will be important for Suco Councils to become familiar with the Project's household selection criteria before preparing lists of potential drum beneficiaries. These criteria are: (i) households must rely on maize as their staple crop; (ii) household maize production levels are sufficient to warrant the initial use of one drum for storage (approximately 150kg/year); (iii) households do not have two or more usable, airtight drums (if a household already has one drum, it will only be eligible for a maximum of one more drum); (iv) households expresses demand for one or two 200L maize storage drums and are willing to pay a co-contribution of \$10/drum; and (v) households' socio-economic situations can be described as: (a) average housing conditions (i.e. semi-solid house); (b) food insecure during “hungry season”; (c) restricted access to key public services (markets, roads and information) due to remote and/or isolated dwellings; (d) no major source of cash income; and (e) no ownership of major assets such as cars, extensive land holdings, and a large number of livestock.

D. OTHE TARGETING MEASURES

20. **Enabling measures** create and sustain a favourable environment for poverty targeting. For TLMSP this means awareness raising and capacity building amongst Project partners and within the Project's management arrangements. It is of key importance that Project partners and staff are aware of the Project's commitment to reducing food insecurity, pro-poor development and gender equality. In the context of TLMSP this will be achieved by continuous cooperation with GoTL at district as well as suco and aldeia levels to ensure full understanding of and support for the Project's activities. Exchange and cooperation with representatives from MAF's District Food Security and Food Crops Officers, and Suco Extension Officers) and with civil society, will be sought whenever possible.

21. The Project will also pursue hiring mechanisms which place emphasis on staff originating from the target districts and encourage qualified female candidates to apply for positions. The Project will

strive to achieve a gender balance when recruiting District Coordinators and Project Facilitators. As part of the Project's management arrangements there will be intensive initial training courses for all staff members and subsequent refresher training. Courses for Project Facilitators will cover: (i) facilitation and organization skills (workshops); (ii) development of communication strategies; (iii) equitable benefits distribution; (iv) basic monitoring and evaluation; and (v) correct drum usage and maize drying techniques. District Coordinators will be trained in: (i) supervision and coordination; (ii) information management; (iii) planning; (iv) equitable development; and (v) monitoring.

22. **Empowerment measures** will be used to encourage the active participation and inclusion of poor upland households in planning and decision-making. In the context of TLMSP this will be achieved through transparent and appropriate communication, and training activities. By involving Suco Councils in consultations as well as drum distribution and training activities, the Project will empower the Suco Council as a political body. It will also build confidence amongst female Suco Council members who will be encouraged to actively advocate for the specific maize-storage needs of rural women.

23. Subsequent sensitization and awareness raising activities at the Suco level will be used to promote the advantages of drums for maize storage. When preparing for these activities the Project will actively pursue the participation of all community members including those who live in remote and/or isolated areas. Special attention will therefore be placed on the communication strategy (i.e. access to brochures and posters announcing the purpose and details of activities at schools, churches, health centers and markets, in addition to direct distribution by Aldeia Chiefs). A message from the Suco Chief inviting people to sensitization and awareness raising activities is very effective, and that it should clearly invite the participation of all family members. Often one such sentence in a simple message is sufficient to also encourage female members of the household to attend and participate in such activities.

24. As the objective is to maximize the impact of the sensitization and awareness raising activities, there will be a focus on the development of materials which address both women and men. Educative and entertaining materials which can be used to highlight the advantages of storing maize in drums include: (i) balloons painted with drums - for children; (ii) banners which feature rows of drums being used correctly; (iii) a public exhibition of 2-3 drums on recommended wooden bases; (iv) public examples of maize samples which have been stored in drums, and traditionally stored – to demonstrate drums' effectiveness in eliminating weevil damage; and (v) posters which display (visual) information and give participants a chance to comments on the recommendations. Following the delivery of drums, the Project will organize drum use training for recipients at the aldeia level to explain the general "do's and don'ts" of drum use and maintenance. These training sessions will aim to involve all family members, and will be intensive and topic focused. These sessions should not have to be repeated.

25. **Self-targeting** in the context of TLMSP will be primarily achieved through the financial co-contribution of \$10/drum which will be paid in cash on the drum delivery day; and household's transport contribution by collecting the drum(s) from the Suco level and organizing transport to their houses. These requirements were discussed with potential beneficiaries during field visits. The financial co-contribution was widely regarded as being acceptable and will not exclude potential target households.

VIII. PROJECT IMPLEMENTATION

A. PARTICIPATORY CONSULTATION AND DISTRIBUTION MECHANISMS

26. These are a feature of the Project's implementation design and are based on existing and accepted practices. TLMSP will work through existing GoTL structures at district and local level and will actively cooperate with Suco Councils as important partners (Working Paper 5: Institutional and Community Structures). To ensure appropriate selection of Project sites and target households, TLMSP will complement its thorough analysis of available poverty and crop production data with consultations with key local stakeholders and subsequent door-to-door household verification visits. With the objective of ensuring full understanding of the advantages of drums for maize storage, and the drum distribution process amongst the community, the Project will organize awareness raising and sensitization activities, as well as drum use training. These activities will take place before and after drum delivery.

B. MONITORING AND EVALUATION SYSTEMS

27. These systems target Project performance by assessing the impact at development objective level (Annex 6). The assessment of reduced maize losses when stored in drums on-farm will involve a baseline survey of maize storage losses under traditional storage systems and also routine monitoring of drum use to ascertain the extent to which, and how, drums are being used. In addition, the Project will carry out qualitative monitoring (Participatory Impact Assessments) in the form of facilitated meetings which will be held at aldeia level to ascertain “positives and negatives” – what was good and what could be improved in terms of the pre- and post-drum distribution processes. In order to capture the particular impact the drums have on rural women and men, gender-disaggregated data will be collected wherever possible. Furthermore, it is envisaged that Project monitoring activities will be implemented in association with MAF’s Suco Extension Officers (under an informal arrangement) and that results will be made available to the ministry’s monitoring and evaluation system, including its Food Security Unit and the national Food Security Committee.

ANNEX III: COUNTRY PERFORMANCE AND LESSONS LEARNED

I. INTRODUCTION

28. As IFAD does not currently support any agricultural development initiatives in Timor-Leste it was not possible to complete an assessment of country performance based on Supervision Reports, Project Completion Reports and Evaluation Reports, and Country Programme Issue Sheets. However, there are similar assessments by other donors and development partners who assist the agricultural sector, and to extract lessons and knowledge which are relevant to the design and success of TLMSP.

II. OVERVIEW OF TIMOR-LESTE'S PERFORMANCE - AGRICULTURAL DEVELOPMENT

A. STAPLE SUPPLY AND DEMAND

29. **Demand for and Supply of Rice and Maize in Timor-Leste.** The World Bank recently³⁹ completed an assessment of the possibility of Timor-Leste becoming self-sufficient in rice, and the conclusion was that even if Timor-Leste achieves high productivity growth rates (for rice) similar to Cambodia (3.94% during 1990 to 2005) and the area of irrigated rice increases by 5% compound per year up to 2020, the country will never be self-sufficient in rice. Rice productivity will have to increase by 5% compound per year (and the area irrigated increase by 5% compound up to 2020) for the country to be self-sufficient in about 2035. However growth in rice production under this scenario will soon plateau out due to biological limitations (and the population will continue to grow) so that by 2040 Timor-Leste will again be required to import rice, about 78,000 Mt in 2050. Even under the most optimistic assumptions in terms of annual productivity growth rates (5% compound) and an equally optimistic assumption that Timor-Leste will increase its area of irrigation from 45,600 ha to 74,280 ha by 2020 the nation will only just be self-sufficient in rice. This is because there are limited areas of land which are suitable for irrigated rice production (soil constraints, lack of reliable water supplies, and very high irrigation investment and operating costs), and a constant increase in demand from a rapidly growing population.

30. **A similar analysis for maize** indicates that even if maize productivity increased at the average rate achieved by a range of South East Asian countries (3.39% during 1990 and 2005) Timor-Leste will never be self-sufficient in maize. However if the area planted to maize could be increased by 3% compound up to 2030, and maize productivity could be increased at the same rate as that achieved by an average of South East Asian countries over 15 years, Timor-Leste could become self-sufficient in maize. This outcome would eventually allow maize value-adding through small-scale livestock production and the development of cash markets for surplus maize.

31. These conclusions have important implications for the development of agricultural policy. If the question is asked "where should agricultural investment be focussed?" it is clear (in terms of food self-sufficiency) that there needs to be a more balanced approach to food production in Timor-Leste. At present the Government of Timor-Leste's (GoTL's) policy is to focus investment in food production on the irrigated rice sector. However given the potential to increase maize production there is a strong case for a change in Timor Leste's food production policy. In fact the foregoing indicates the need for a two-pronged and similarly-phased approach to increasing food production, by: (i) allocating more resources to the rainfed, upland sector where annual maize production could be increased by increasing yields and the area planted; and (ii) only developing irrigation areas which have good technical, financial and economic potential, and heeding the disappointing results from investment in the rehabilitation of the large-scale Caraulun irrigation system⁴⁰.

32. This suggested change in strategy would result in a focus on a sector of the food crop production system (rainfed maize, with mixed roots and tubers) which has considerably more potential to feed the people of Timor Leste than expensive and high maintenance irrigated rice schemes. Most districts in Timor Leste have "surplus" or "sleeping land" and these areas have unrealized production potential which could be realized through development programmes which focus on Timor Leste's relatively vast upland rainfed areas. These conclusions support TLMSP's intention to focus on improved on-farm storage of maize grown by the majority of poor, upland farmers.

³⁹ The World Bank; Report on Agricultural Productivity in Timor-Leste (2009). Note: this analysis was updated in early 2011 and concluded that at best Timor-Leste could become self-sufficient in rice by about 2020, under optimistic yield and area assumptions. This annex is based on the initial report.

⁴⁰ The Implementation Completion Report prepared by the World Bank on the Agricultural Rehabilitation Project (ARP) III reported a very low EIRR for this scheme – 1.7%.

33. Results from the above analyses can be interpreted in various ways in terms of how Timor-Leste might respond to these food demand/supply scenarios, and how these scenarios might influence the design of TLMSP. The most logical interpretation is as follows: if Timor-Leste is not able to become rice self-sufficient, then the two options are: (i) import rice or ask donors to supply rice⁴¹; or (ii) grow (and store) more maize and not encourage the substitution of imported and subsidized rice for home-grown maize. Rice importation is expensive (shadow price of about \$560/Mt), consumes petro dollars with a high opportunity cost, and rarely benefits the isolated and marginalized poor upland maize farmers⁴². Whilst there is some potential to increase rice production in Timor-Leste, there is considerably more potential to grow more rainfed, upland maize⁴³, provided that it can be stored on-farm for consumption during the “hungry season”. This simple analysis confirms the logic behind TLMSP, and the complementarity between TLMSP and Seeds of Life Phase III (Key File Table 4 in Annex 13).

B. FOCUS ON IRRIGATION

34. According to the State of the Nation report (2008) there are 56,272 ha of functional irrigation in Timor Leste out of a total potential irrigation area of 71,258 ha. These figures are probably over-estimated as they do not take into consideration the operational status of the systems. Irrigation schemes in Timor Leste have in many cases very high maintenance costs which cannot be adequately met by farmers or MAF. This means that some schemes are not operational or only partly functional.

35. While irrigation investment has been allocated a central role in Timor Leste’s rural development policy there is limited technical knowledge of irrigation in the country. This is firstly a direct result of Indonesian administration when Government controlled all irrigation operations and maintenance. Such a situation left irrigation scheme farmers with a perception that schemes are a Government responsibility. Secondly, although some investments since independence were directed at Water User Associations (WUAs) and training of MAF staff, there remains a shortage of adequately trained staff. A second important aspect of irrigation in Timor Leste is that most investments have focused on the quick rehabilitation of structures which were damaged or destroyed following Indonesian occupation.

36. A third factor is that irrigation schemes in Timor Leste often require complex civil engineering structures due to topographic conditions, and overflowing rivers with high scour potential. This results in high demand for technical expertise during design and construction supervision. A technical review of a sample of ARP III irrigation schemes (Foster, 2008⁴⁴) reported that overall construction quality was low and “structures built were not designed using engineering principles” thereby undermining sustainability.

37. In terms of returns to public and development partner investment in irrigation in Timor Leste, achievements have been mixed and there are some pertinent lessons for the future. The World Bank’s report on Agricultural Productivity contains a review of irrigation effectiveness and concludes that: (i) irrigation investment costs have varied from between \$300/ha and \$3,700/ha; (ii) during ARP II most investments produced economic rates of return below 12%, while for ARP III Caraulun generated very low returns, and the community irrigation schemes produced positive returns; (iii) using MAF’s reported country average yield of 1.2 Mt/ha of paddy, and an investment cost of \$3,000/ha, simulation indicates that such schemes will generate negative returns; (iv) for lower rehabilitation costs (\$700/ha) schemes generate returns above 12% if average paddy yields are above 1.5 Mt/ha; and (v) for higher rehabilitation costs (\$1,700/ha), paddy yields have to be about 2 Mt/ha for schemes to generate adequate returns.

38. **The introduction of Chinese hybrid rice varieties** into some of the more favourable areas for irrigated rice production in Timor Leste has reportedly⁴⁵ resulted in very high paddy yields. These yields were achieved with the use of heavy applications of inorganic fertilizer (N, P and K), good water and paddy management practices, and reliable supplies of irrigation water. However this rice production system is not sustainable because of its reliance on new hybrid seed every year, and the

⁴¹ China will donate 50,000 Mt of rice in 2011.

⁴² Subsidized imported rice is “officially” available in all sucos. However during design many families and villages were encountered who did not have access to this rice and were paying the full commercial price – ranging in from \$0.75 to \$1.00/kg.

⁴³ The World Bank – *ibid*.

⁴⁴ Nick Foster, 2008, “Third Technical Audit Report of Investments in Irrigation and Roads”, MAF Document, completed as part of ARP III implementation.

⁴⁵ *Pers. Com.* Rob Williams, Seeds of Life II.

use of high rates of inorganic fertilizer. It is doubtful if small irrigation farmers will ever adopt a system which is not sustainable from their point of view.

C. MECHANIZATION

39. MAF has not yet completed an impact assessment of its mechanization programme. However there was some anecdotal evidence that some rice production areas planted later than normal in 2009 because farmers were waiting for tractors to be delivered, and there are reports of tractors breaking down after a few days of work. An impact assessment of this programme needs to be completed with the objectives of: (i) determining if the policy of free tractor hand-outs resulted in an increase in the area cropped during the main rice growing season; and (ii) identifying the support required to ensure that the sunk capital cost of the tractors generates an acceptable return to public sector expenditure, and increases farm gross margins and returns to family labour. An initial assessment of MAF's expenditure on mechanization is in a report prepared by Mr. Peter Oldham⁴⁶. He concluded that the total number of hand-tractors to be distributed during 2008-09 by all GoTL Ministries (about 2,000) would far-exceed national requirements given the total area of rice cultivated, even if every rice farmer used hand-tractors for land preparation.

D. INTEGRATED AREA APPROACH

40. There are no official reports publicly available on the progress and achievements of the two current integrated area development projects (Rural Development Project [RDP] II and RDP III). RDP III only commenced implementation in early 2009. However the precursor projects to the RDPs (Agricultural Rehabilitation Projects – ARPs) have been completed for some time and Implementation Completion Reports (ICRs) are available for ARP II⁴⁷ and ARP III. Both ICRs report a range of difficulties associated with the implementation of multi-disciplinary projects across a range of districts.

41. According to the ARP III ICR the project achieved some improvements in MAF's capacity, namely through helping coordination of the Ministry during its rapid expansion phase and also improving technical capacity through on-the-job training and financing study periods for personnel. However the ICR assessment concluded that most of the activities could still not be carried out effectively by MAF staff without further external support. The ICR highlighted that the limited time frame provided for implementation of a complex project resulted in less focus on quality and knowledge transfer, and this was compounded by the fact that most project capacity building activities targeted MAF's Head Quarters, while on-the-job training for field staff by advisors was insufficient.

E. UPLAND CROPS

42. The most direct support provided by MAF (through its funding of counterpart staff) and cooperating development partners for the development on Timor Leste's upland (rainfed) cropping areas is provided by: (i) Seeds of Life III which conducts adaptive research on and then releases new varieties of maize, cassava, sweet potato, peanut and rice; (ii) USAID's support for coffee production and marketing to Cooperative Café Timor (CCT); (iii) GIZ's "Promoting Rural Development Project"; and (iv) indirectly through the two current RDPs, and the forthcoming RDP IV. It is not possible to assess the impact of MAF's current upland crop production programmes because there are no strategic plans or crop-specific action programmes for the main rainfed crops against which to assess progress. MAF tends to rely on assistance from development partners to assist communities who grow these crops, because the Ministry has little residual budget for upland development once the rice sector has received its priority budget allocations.

43. This situation is illustrated by MAF's recent request for development partners to fund a list of 39 "priority" programmes during 2010. These programmes are distributed throughout MAF's directorates but there is no prioritization or focus on the main constraints which are limiting agricultural production in Timor Leste. However despite this lack of focus on the upland zone by MAF, cooperating development partners have demonstrated some good examples of how to increase maize, cassava, sweet potato, coffee, coconut and livestock production.

⁴⁶ Peter Oldham, "Report on Tractor Survey", 12th December 2008, M&E Unit, NDPP, MAF.

⁴⁷ ICM (TF050151), The World Bank, Rural Development and Natural Resources Sector Unit, Timor Leste Country Office, June 27th, 2005

F. CONCLUSIONS

44. One point is very clear – in terms of domestic budget allocation GoTL is currently focussing very strongly on its irrigated rice sector⁴⁸. This is despite questionable results from prior investments in irrigation infrastructure, reliance on non-sustainable technology (hybrid rice), and unproven outcomes from the mechanization policy. This rice-focused strategy is being supported by a budget allocation process which seems not to recognize the potential of Timor Leste's rainfed sector (particularly maize production) to contribute to the nation-wide objective of food security and to the generation of improved rural incomes through increased cash crop production. In summary the current bias towards rice at the expense of other crops is the reason why this annex argues (on the basis of food security, equity and poverty reduction) that although irrigated rice production is important to Timor Leste, other sectors of the food and cash crop production systems warrant equal (or more) support and budget allocation if the poorer and more isolated rural communities are to experience improved livelihoods and the nation is to become less-reliant on food imports.

45. A project such as TLMSP will comply with these recommendations as it is designed to: (i) focus on the marginalized and poor upland farming communities; (ii) has the potential (especially when in partnership with Seeds of Life) to result in substantial increases in maize production; and (iii) addresses an urgent need – the provision of additional food for hungry upland families.

III. LESSONS LEARNED, EXISTING KNOWLEDGE AND BEST PRACTICES

A. OVERVIEW

46. There are a number of facts which need to be considered when designing and implementing agricultural development projects in Timor-Leste, including: (i) the majority of farming households in Timor-Leste are located in the poor upland areas, with substantial annual food deficits and very limited cash incomes; (ii) GoTL is still in a post-conflict situation, with policies heavily oriented towards the free provision of inputs to farmers, coupled with a prevailing hand-out mentality amongst the rural population - this mentality is often fuelled by donor programmes and NGOs which commonly provide free inputs; and (iii) cultural norms and kinship ties are strongly oriented towards the free exchange of inputs and assets between families.

B. POLICY, STRATEGIC ENVIRONMENT AND INSTITUTIONAL CAPACITY

47. The rural development policy environment outlined in Annex 1 has implications for TLMSP. It indicates the need for a flexible and programmatic approach to agricultural development which is able to respond to changing objectives and strategic directions, as MAF responds to political pressures (particularly in terms of rice production). MAF is aware of and has requested assistance with more support to achieve the objectives of rural poverty reduction and food self-sufficiency. Capacity building is required across all of MAF's 12 national directorates and its 13 district offices, but this is well beyond the remit of TLMSP, both in terms of focus and budget. Therefore the design of TLMSP only focuses only on those aspects of capacity building which need to be strengthened in order for drums to be successfully delivered to and used appropriately by upland maize growers – such as support for MAF's procurement and financial management systems.

C. PRODUCT FOCUS AND POVERTY

48. GoTL's policy is heavily oriented towards the production of irrigated rice, with upland farming systems relatively neglected. The poorer sections of Timor-Leste's rural population are not rice growers – they live in the rainfed highlands and subsist on maize and mixed roots and tubers. In addition a high percentage of the nation's rice growers also grow maize, and mixed roots and tubers to mitigate against the risk of rice crop failures. This situation means that TLMSP needs to be cognisant of the interaction between crop types (rainfed and irrigated) and the location of pockets of severe rural poverty, and to ensure that biases (in terms of foodcrop focus) are avoided. Against this background it would seem appropriate for TLMSP to focus clearly on maize for the logical reasons of poverty focus and upland food security⁴⁹.

⁴⁸ With considerable support from one development partner – JICA.

⁴⁹ And clear compliance with one of IFAD's key guiding principles; see Annex 11 – Adherence to IFAD's Policies.

D. DONOR COORDINATION

49. The donor coordination (for MAF support) is an important issue. Numerous development partners continue to attempt to establish “their strategic niches” within MAF with some focusing on selected geographic areas (districts) such as the European Commission- (EC)-funded RDPs and others focusing on specific products, e.g. Portugal’s support for the coffee industry. This causes some confusion in MAF and makes implementation coordination, and monitoring and evaluation, difficult. In addition under this scenario the Ministry of Finance is tempted to limit MAF’s operational budget because there is a perception that the ministry is “over-supplied” with bilateral support. As with the policy environment issue, the issue of development partner coordination means that TLMSP will need to carefully define and engage with its cooperating partners and to ensure that the Project is fully aware of the development initiatives which are being implemented in its target districts by numerous development partners (Annex 1, Appendix 1, Table 1).

E. CAPITAL AND OPERATING BUDGETS

50. Government budget allocations to support operational costs in the agricultural sector are highly uncertain and constrained, particularly given MAF’s sharply increased budget in 2009 which focused on irrigated rice production – mechanization, irrigation infrastructure, hybrid rice seed, and free fertilizer. This was followed by a much-reduced MAF budget in 2010⁵⁰; from \$29.8 million in 2009 to \$12.9 million in 2010 (the budget for mechanization fell from \$16.4 million to \$2.5 million) and it is possible that MAF’s operational funds will be further-cut in 2011. This budget scenario is likely to constrain MAF’s capacity to support donor-funded agricultural development programmes. Project design teams need to be aware of this budget situation.

F. OPERATIONAL AND EXTENSION PLANNING

51. The newly-appointed Suco Extension Officers (SEOs) have relatively limited technical and extension skills and negligible operational budgets. This severely constrains their ability to work with farmers. In addition MAF has limited institutional capacity to plan and implement nation-wide programmes which focus on on-farm food storage. To some extent this issue will be addressed by the forthcoming RDP IV, but this Programme is likely to be constrained by lack of GoTL operational budget at the sub-district and suco levels, the latter being the most important for the delivery of drums and the provision of support in their use and maintenance. The implications for TLMSP include the need to engage with the SEOs in a way which does not rely on their access to resources from GoTL, and where appropriate to assist with their professional development – but only to the extent necessary to achieve the objective of including the SEOs in the drum delivery and support activities, if the SEOs are available and interested in being included in TLMSP.

G. DECENTRALIZATION

52. GoTL’s plan to decentralize its governance structure down to municipalities with elected mayors as the chief administrators has implications for TLMSP as the Project will use this structure (from the districts down to the sucos) for drum delivery⁵¹. Decentralization will mean development projects will have to engage more closely with district and sub-district offices as local development plans and associated budgets will be formulated and implemented at this level in GoTL’s hierarchy.

IV. LESSONS LEARNED

53. The following “generic” lessons from current agricultural development experiences in Timor-Leste need to be taken into account when designing TLMSP:

- (i) A tight focus on core issues by Seeds of Life II (increased production of staple foodcrops) and activities (variety evaluation and seed production/ distribution) has been a major reason for its success.

⁵⁰ For example, the important Food Security Unit has an operational budget of only \$12,000 in 2010, even though the Unit has a critical role to play in terms of monitoring on-farm supplies of food. La’o Hamutuk (a local NGO) recently criticized GoTL for under-investing in Timor-Leste’s rural sector, see <http://laohamutuk.blogspot.com/2010/12/lh-submission-on-2011-budget-to.html>

⁵¹ Note however that implementation of the decentralization plan has now been delayed until after the 2012 national elections.

- (ii) Key lessons from the ARPs include: (a) use clearly defined results-based indicators which are easy to monitor and facilitate project implementation; (b) a good understanding of the socio-economic situation, farming systems and livelihood opportunities is crucial for design and impact analysis; (c) outcome and output targets must be realistic; (d) design complexity impedes local ownership; and (e) development work should be built on a legislative framework and functioning institutions.
- (iii) Technical interventions should only be released after they have been selected and farmer-evaluated against a range of production, storage and consumption criteria. In the case of TLMSP this means that initially drums should be delivered to communities who have some prior experience with this form of maize storage (if possible).
- (iv) If projects are to be implemented through GoTL ministries, support needs to be embedded in divisions and directorates where there is consistent leadership and ownership.
- (v) The development of sustainable capacity within MAF takes considerable time and needs to be founded on mutual respect and effective partnerships between the international team, the MAF team, and other local partners.
- (vi) Building networks and “win-win” partnerships with a range of development partners with common development objectives can provide a viable mechanism for scaling-up, provided the partners work to a commonly-agreed plan.
- (vii) Gender needs to be fully integrated across projects, and appropriately resourced if it is to be adequately addressed.
- (viii) Utilisation of GoTL financial systems for disbursement can be difficult and slow and should follow a cautious, step-by-step approach.

ANNEX IV: DETAILED PROJECT DESCRIPTION

I. TITLE, GOAL AND DEVELOPMENT OBJECTIVE

54. **Title:** Timor-Leste Maize Storage Project (TLMSP). The **goal** is “improved food security for maize growing households in Timor-Leste”. The **development objective** is “reduced losses of maize stored on-farm”.

A. KEY DESIGN PRINCIPLES, PRIORTIES, POVERTY AND TARGETING

55. **Design Simplicity.** The design of TLMSP has deliberately been kept simple and focused on a major national problem; house-hold storage losses of maize which is the most important food crop in Timor-Leste particularly for the majority of poorer upland farmers who do not have access to irrigation. The following design principles were adhered to:

- (vi) The design has deliberately avoided “complexity”. The objective is focused and targeted on a major single national issue (i.e. improved food security through reduced maize storage losses) and avoids the temptation to add on complementary activities which might “round-out” the Project, but which do not add significant benefits and are likely to complicate implementation.
- (vii) The design focuses on a low-risk and well-proven intervention (provision of drums for on-farm maize storage) which has the potential to generate high and immediate impacts for target beneficiaries. Drums are robust, easy to move (by rolling), last for years, can be managed easily, and do not burn when kitchens catch fire.
- (viii) The selection of a development intervention (drums for maize storage) which is culturally acceptable. Drums have been used to store maize and other food crops in Timor-Leste for more than 25 years. The major constraint is the limited availability of drums.
- (ix) The selected development intervention is highly complementary with other projects, in particular Seeds of Life Phase III (SoL III) which will distribute seed of an improved maize variety (Sele) that has substantial yield advantages over local varieties (50%). There is an important relationship between the provision of improved maize storage and SoL’s maize breeding programme – if it is not essential to breed for weevil resistance SoL will be able to release even higher-yielding varieties which do not have this characteristic.
- (x) The design has learnt from Care International’s experience with the importation of clean/used 200L petroleum drums for distribution to poor maize-growing households (6,000 drums in mid-2010).
- (xi) The design is based on the use of existing and accepted planning, management and delivery mechanisms for Project implementation. TLMSP intends to work through the Government of Timor-Leste’s (GoTL’s) decentralized district government administration (from district to sub-district) and local community structures (suco to aldeia); and to liaise closely with the Ministry of Agriculture and Fisheries’ (MAF’s) directorates and staff who are responsible for food production and storage. These structures (see Figure 1 in Annex 5) and community-based participatory consultation, will be the mechanisms through which the Project socializes, promotes and organizes the delivery of maize storage drums, with assistance from Project-funded District Coordinators and Facilitators. The design does not duplicate existing GoTL State Administration or line Ministry staffing structures or systems.

56. **Priorities.** The design complies with and supports: (i) GoTL’s objective of food self-sufficiency (Prime Minister’s July 2011 Strategic Development Plan; (ii) MAF’s 2004 Policy and Strategic Framework; and (iii) IFAD’s Strategic Framework: 2011-2015 (Annex 11). Although IFAD does not have a COSOP for Timor-Leste, the TLMSP as planned: (i) is aligned with IFAD’s overarching goal that rural women and men in developing countries are empowered to achieve higher incomes and improved food security at the household level; (ii) complies with one of IFAD’s six strategic objectives: “*Improved agricultural technologies and effective production services, with which they enhance their productivity*”; and (iii) meets two of IFAD’s key principles of engagement: (a) “*guiding pro-poor support*” and (b) “*specific targeting*”. The Project also complies with and supports MAF’s draft National Policy on On-Farm Storage of Maize and Paddy which states “... MAF pledges that all development partners cooperate in (the) procurement and distribution (to) all villages in Timor-Leste,

(of) adequate airtight containers (e.g. drums) per family to securely store stock of seeds and food, in combination with the provision of seed of higher-yielding varieties (through SoL)”.

57. **Poverty and Targeting.** TLMSP will initially target the economically active poor in Aileu District, (PY1), Manufahi and Manatuto Districts (PY2), and Ainaro and Viqueque Districts (PY3). Sixty-seven percent of households in these five districts live below the World Bank’s 2008 Timor-Leste Sustainable Livelihoods Survey (TLSLS) poverty line⁵². The first four districts are in Timor-Leste’s Central Region where poverty is most concentrated and maize is grown as an important staple. Viqueque has a lower poverty level (40%) but is a major maize growing area. In total the Project will directly benefit about 60-65% of rural households in these districts, representing 18% of all rural households nation-wide. As part of the targeting mechanism, gender mainstreaming measures will be applied at all levels of Project implementation - local government, village and individual household. TLMSP expects to deliver 42,000 maize storage drums to 23,000 households in five districts, 21 sub-districts, 116 suco and 610 aldeia by the end of PY3.

II. DESCRIPTION OF PROJECT AND COMPONENTS

a. PROJECT OVERVIEW

58. Figure 1 provides a Project Overview showing the development objective, outputs, components, and grouped activities hierarchy. This Annex provides a detailed description of this overview and should be read in conjunction with Annex 5 (Implementation Arrangements) as there is some overlap between the two.

b. OUTPUT 1: Maize Storage Drums Procured and/ or Manufactured Locally

Summary

59. Initially the Project will depend on the international supply of new 200L drums. It is expected that drums will be imported for most of the first phase (42,000 drums over three years) whilst at the same time local (private sector) manufacture of 200L drums is investigated with support from R&D activities which focuses on alternative drum/ container design, in-field testing, and business development feasibility studies.

Details

60. **Background.** The Project intends to build on the considerable local experience in Timor-Leste (Drums on Farms, and Care International [NGOs]) with the importation and distribution of 200L used petroleum drums from Indonesia for use as maize (and seed) storage containers. Many Timorese farmers are familiar with the use of drums for grain storage (one village in Suai has used drums for 25 years and has never reported food deficiency problems). Simplistically, the only constraint is limited in-county of supply of airtight 200L drums. In essence, TLMSP will therefore be a procurement and logistics exercise which facilitates the supply of drums, targeting Timor-Leste’s poorest and most food insecure rural households.

61. **Drum Purchases.** Initially (probably for the first three years [Phase I⁵³]) TLMSP will import new 200L fuel drums in containers from China, Vietnam or India. Quotations from potential suppliers indicate that new drum prices are competitive with prices for used 200L drums and therefore TLMSP will only import new drums. Contracted suppliers⁵⁴ will deliver these drums to the Dili port and then arrange transportation to a secure holding yard either rented by the Project or provided by MAF, depending on circumstances at the time of importation⁵⁵. If required the Project will pay for security fencing to be upgraded and for security guards to protect the drums⁵⁶.

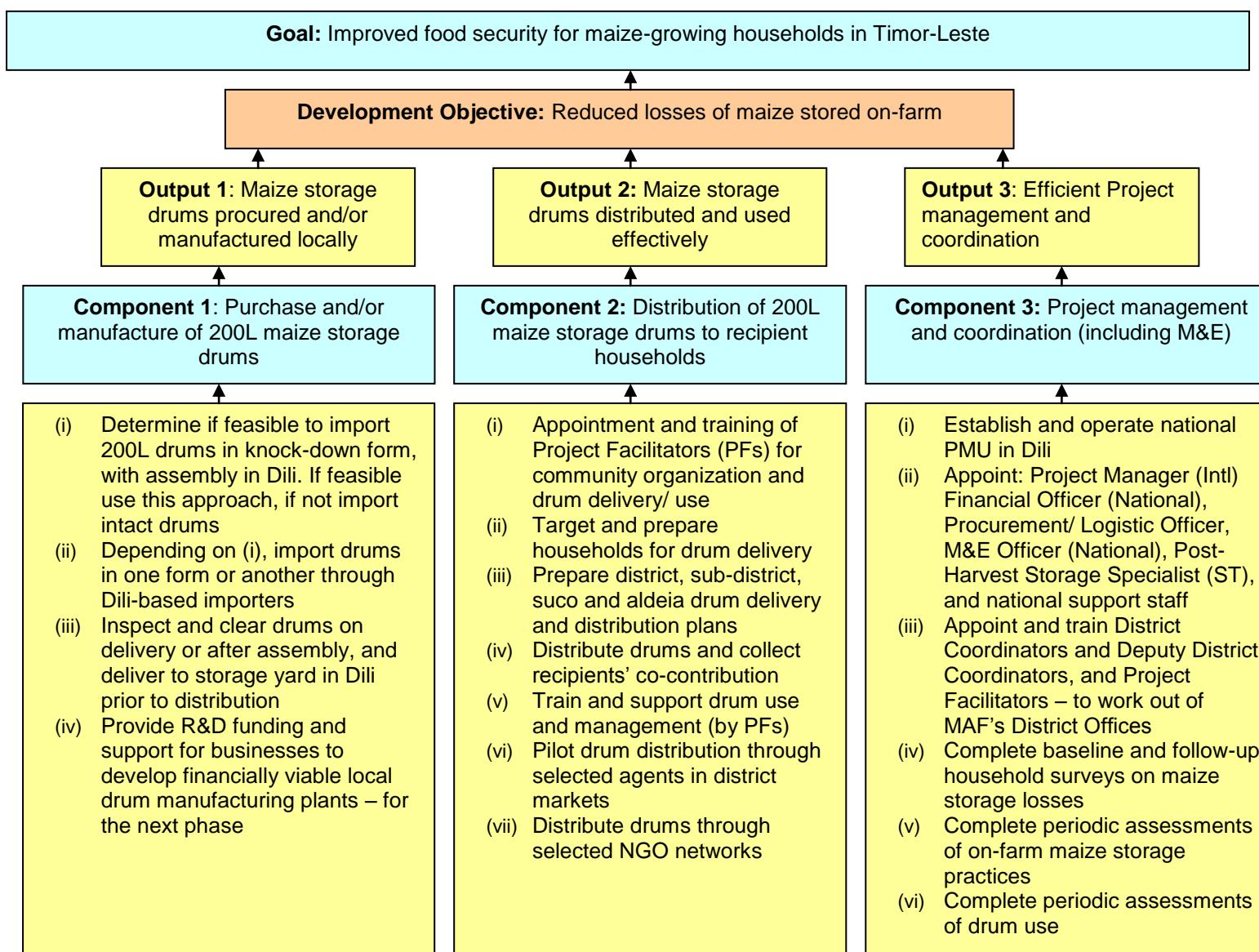
⁵² The upper TLSLS poverty line (in 2007 dollars) was \$0.88 per person per day.

⁵³ Subject to financing, it is expected that the Project will run over three phases, with Phase I being implemented over three years. AusAID has expressed non-committal interest in potentially providing funding for subsequent phases.

⁵⁴ A company named Oceano assisted Care International with drum importation in 2010.

⁵⁵ In mid 2011, MAF reportedly had suitable storage space available, but this situation could change prior to the first shipment of drums in about quarter three in 2012. Therefore this aspect of design is flexible and has been costed accordingly.

⁵⁶ Security will be important as each drum will have a market value of about \$40 (CIF Dili).



62. TLMSP will commence using 200L drums as this sized drum is readily available in the international market, even though there is a strong demand for smaller drums (e.g. 100L in size) from target farmers. This is because many poor upland maize growers do not produce sufficient maize to fill a 200L drum, and drums need to be at least two-thirds full for anaerobic conditions to prevent weevil damage.

63. Drums will be inspected on arrival at the Dili port and rejected if damaged (badly dented, with holes and therefore not airtight, or bungs not fitted properly). Even though drums will be new the Project will apply a QA process to ensure that all drums are internally clean and safe for grain storage which will entail randomly checking consignments to confirm internal cleanliness. Drums will be painted before shipment and badged. Once the drums are in-country, “how-to-use” stickers printed by the Project will be applied, either in the district-level holding compounds or just before being trucked to the sucos.

64. An option for consideration once implementation commences is be the importation of 200L drums in knock-down form (flat sides, and tops and bottoms) and in-country fabrication. If assembly in Timor-Leste by local businesses using an imported drum crimping/ welding machine is feasible, this approach will reduce costs substantially because it is inefficient to ship empty 200L drums full of air, in containers, and there is no other form of sea transport to Dili which is cheaper than containers. Another drum option worthy of consideration is the commercial manufacture of new 200L fuel drums in Timor-Leste using off-the-shelf drum manufacturing machinery which is available from China.

65. **Project-funded R&D activities** will include support for local drum manufacturers⁵⁷ to develop and field-test prototype 100L and 200L drums, followed by pilot rollouts and evaluation of field trials. Local drum manufacturers will be assisted to develop and test various-sized maize storage drums with the objective of eventually replacing imported drums with locally-manufactured drums^{58,59}. The R&D package will include funds for businesses expansion and funds-sourcing feasibility studies, with the objective of supporting the emergence of a financially viable national drum manufacturing business in Phase II which is capable of: (i) meeting TLMSP’s future demand for drums; and (ii) supplying an expanding private market which is expected to develop as farmers experience the financial benefits of owning drums and seek to expand their on-farm maize storage capacity by purchasing drums on the open market.

66. Limited R&D funds will also be allocated to improving the maize shellers which are currently manufactured by FAO-supported blacksmiths in Baucau (ease of use, robustness, etc.). Better quality maize shellers are believed to be available in India and Indonesia and therefore samples will be imported and tested in Timor-Leste in terms of acceptability to women and children (who do most of the maize shelling), and robustness and efficiency. Once proven and manufacture in Timor-Leste is under-way these labor-saving maize shellers will be distributed free of charge to drum recipients at the rate of about one sheller per 10 households. The rationale behind this support is that use of maize shellers will make drum use for maize storage more attractive to recipient households because the shellers will over-come a possible labor constraint⁶⁰.

c. OUTPUT 2: Maize Storage Drums Distributed and Used Effectively

⁵⁷ Initially likely to be East Timor Roofing (ETR) from Baucau, and a company (un-named) which has just opened a corrugated roofing iron factory in Dili. In addition, an international company claims to be able to manufacture 200L fibre-glass maize storage containers at a competitive price.

⁵⁸ ETR has already produced a corrugated iron 200L drum with sealed inlets and outlets. This prototype is currently under-going field testing by Drums on Farms. However, indicative costings are considerably higher than the Project’s initial “base” cost of \$50 per drum delivered to sucos.

⁵⁹ If feasible, local drum manufacture will require considerable injections of investment and operating capital into companies such as East Timor Roofing. At present this business has only one medium-sized factory in Baucau.

⁶⁰ All maize has to be stripped-off the cob before storing the maize seed in drums. This means that a complete maize harvest has to be shelled at the one time when drums are used for storage, whereas under traditional storage practices women only shell maize cobs as required for consumption. Note: not one family interviewed during field work indicated that the use of drums for maize storage would increase household, or female, labor requirements.

Summary

67. This output will be achieved through the following sequential steps: (i) appointing and training direct-hire Project Facilitators (PFs) in community participation and organization skills, and drum delivery/ use; (ii) targeting and preparing households (in terms of eligibility and preparedness to receive and use 1-2 drums for maize storage, depending on household-levels of maize production and willingness to pay a co-contribution of \$10 per drum); (iii) preparation of district, sub-district, suco and aldeia drum delivery and distribution plans; (iv) drum distribution in time for the next maize harvest, and the collection of recipients' co-contributions; (v) training and support in drum use and management (provided by the PFs); (vi) piloting of drum distribution through selected agents in district markets; and (vii) drum distribution through selected NGO community networks. Around 23,000 households will receive 42,000 drums during the three-year Project, including direct supply from the Project and through district agents, but excluding supply through secondary NGOs.

Details

68. **Project Facilitators (PFs)** will be appointed directly by the Project to complete the series of field-level activities which lead up to and support drum delivery to target maize-growing households (para 67). PF appointments will be phased over the three-year life of the Project reflecting progressive expansion from one target district in PY1 to two districts in PYs 2 and 3. By PY3 there will be 26 PFs working with TLMSP. The PFs will be university graduates in social sciences (there is greater requirement for community development-type skills than technical skills) and preferably from one of the initial five target districts. This last selection criterion will be important as PFs selected from their own districts will have some prior knowledge of the social and physical aspects of the local environment, including how rural households survive on small upland farms, and of the need for assistance with improved food security.

69. **The PFs will receive induction and community engagement training** which will be organized by the Project Management Unit (PMU) in Dili and delivered by: (i) staff from the PMU – the Project Manager (PM), Finance Officer (FO), Procurement/ Logistics Officer (P/LO), Monitoring and Evaluation Officer (M&EO), and short-term Post-Harvest Storage Specialist (PHSS); (ii) contracted special trainers (with skills in community organization and support programmes); (iii) if suitably qualified, the Project-appointed District Coordinators (DCs); and (iv) staff and experts from partner projects such as Care's "Local Initiatives for Food Security Transformation Project" (LIFT) which distributed 6,000 x 200L drums for seed and food storage in 2010, and SoL III which distributes seed and planting materials of new and improve varieties of all major food crops⁶¹.

70. The PFs will be supported with transport (motorbikes), communications, travelling allowances, and miscellaneous equipment, and with annual refresher courses in topics identified from internal reviews of progress and issues encountered (Participatory Impact Assessments [PIAs]). These courses will be run by the PMU staff and DCs with support as necessary by other trainers listed above. The PFs will be responsible to the DCs (who will work out of a District Coordination Office [DCO] based in MAF's District Office). During the week the PFs will work at the sub-district level. The DCOs will remain operational for about one year and then the district team will move on to the next target district/s. Annex 5 describes how these Project staff will work together and highlights the importance of close communication and liaison with GoTL's District and Sub-District Administrators, and Suco and Aldeia Chiefs; and with MAF's District Director (DD) and his/ her food production and security staff. The PFs will be supported and mentored by the DCs and Deputy District Coordinators (DDCs) and by the PM when he/ she makes periodic visits to target districts.

71. **The PF's main tasks** (see Annex 5 for details) will include:

- (viii) Meeting with District Administrator and Team: The drum delivery process will start with an introductory meeting at the district level between: (i) the DA and his/ her team; (ii) MAF's DD and his/ her team (Food Production and Food Security, and Post Harvest Management Officers); and (iii) Project Staff – the PM, the DC and the DDC. The agenda will cover: (a) introduction and presentation of a Project outline; (b) identification of sub-districts (and if possible sucos) which are suitable for intervention (meet targeting criteria); and (c) miscellaneous – organizing space for drum storage in the district centre,

⁶¹ Include the variety of maize named Sele, which increase on-farm yields by 50% without any changes to the farming system.

setting-up office space (rented or in MAF's District Office, depending on the specific district), and a supporting letter⁶².

- (ix) Meeting at Sub-District Level with Suco Chief: After the district-level meeting, a follow up meeting will be held in each sub-district with the Sub-District Administrator (SDA) and his/ her team, Project Staff (DC, DDC and PFs), Suco Chiefs, Community Development Officer (CDO) (if available) and representatives from NGOs and Community-Based Organizations (CBOs). The meeting will discuss: (a) introduction and presentation of the Project; (b) identification of sucos (and if possible aldeias) which are suitable for intervention (meet targeting criteria); and (c) distribution of initial promotional materials to Suco Chiefs.
- (x) Meeting at Suco-Level with Suco Council Members: PF's will then hold an introductory meeting with members of the Suco Council and stakeholders such as NGOs, CBOs, and MAF's Suco Extension Officers (SEOs) if available. The meeting will discuss: (a) introduction and presentation of the Project; (b) explanation of criteria to be used to compile lists of households who are eligible to receive subsidized maize storage drums, stressing the importance of including female-headed households; and (c) distribution of promotional material to the Suco Council. After the meeting the PF will work on the additional tasks of: (a) collation and finalization of target lists (eligible households), after one week; and (b) preparation of a socialization event.
- (xi) Socialization Event – Suco/Aldeia Level: The objective of this event will be to promote drum usage (including the provision of information on the advantages of drums, financial contributions, verification and delivery mechanisms, and household selection criteria). To avoid misunderstandings, the PFs will need to clearly explain the eligibility criteria to potential beneficiaries. In addition, the PFs will provide advice on food security and child nutrition.
- (xii) Verification process – Aldeia/Household Level: The objective of this process is to double-check and verify the list of eligible households, and to hand out tickets (required to collect drums) to recipient households. This task will be carried out by the PF with assistance from a volunteer (Suco and/ or Aldeia Chief and/ or his/her representative). After the verification process has been completed the PF will prepare a drum delivery plan and schedule with the DC, and schedule drum delivery in close cooperation with Suco Councils, and the P/LO in the PMU. A minimum of two weeks notice will be given in advance of drum delivery to the Suco Council so that the Chief or his/ her representative can organize recipient households for drum collection.
- (xiii) Drum Delivery Day – Suco Level, (with possible prior transport of drums to the Suco): The objectives of drum delivery day are: (a) to distribute drums to selected recipients against the entitlement tickets which were previously issued; (b) collection of co-contributions of \$10 per drum; and (c) announcement of a forthcoming drum use training day. This event will be organized by two PFs and the DC/ DDC, or a third PF, and be attended by drum recipients and Suco Council members. An additional task after drum delivery will be to organize a drum use training day in coordination with the Suco and Aldeia Chiefs, plus follow-up on the food security situation and household nutrition.
- (xiv) Drum Usage Training Day – Suco or Aldeia Level (depending on number of recipients): The objective of the drum use training day is to explain/ demonstrate how to use drums to store maize. Training will include proper maize drying and storage techniques. The training will be carried out by the PFs with participation by: (a) the Chief of the relevant Aldeia; (b) SEOs (if available); (c) representatives from CBOs (if available); (d) representatives from the relevant Suco Council; (e) drum recipients; and (f) a representative from SoL (if possible). The day will also be used to run refresher courses on food security and household nutrition.

⁶² This letter will state that the District Administrator supports the implementation of TLMSP in his/ her district.

72. **Drum eligibility criteria** will include: (i) households must rely on maize as their staple crop⁶³; (ii) household maize production levels must be sufficient to warrant the initial use of one subsidized drum for storage (approximately 150kg/year); (iii) households must not already own two or more usable, airtight drums (if a household already owns one drum it will only be eligible for one more); (iv) households which express interest in 1-2 drums for maize storage (and satisfy the above criteria) must be willing to pay a co-contribution of \$10 per drum; (v) households must be willing to participate in follow-up Participatory Impact Assessments (PIAs) and other M&E activities; and (vi) general household socio-economic situations must fit the following description: (a) do not own an improved house (i.e. must live in a semi-solid house); (b) are food-insecure during the “hungry season”; (c) have restricted access to key public services (markets, roads and information) due to remote locations; (d) have no major sources of cash income; and (e) do not own major assets such as a car, extensive areas of land, or large numbers of livestock.

Recipient families will be entitled to one or two 200L drums, depending on their assessed level of maize production. This household selection process will be completed by members of the Suco Councils and the PFs and pay particular attention to ensuring that the female-headed households are equitably assisted. If target households already own one drum they will be entitled to receive one more (subsidized) drum from the Project, provided that the family grows sufficient maize to fill two drums. If families already own two drums (very unlikely, given the poverty levels in the targeted districts) they will not be entitled to any subsidized drums, but will be encouraged to purchase additional drums from local markets. The reason for allocating drums according to these guidelines is that many target households do not grow sufficient maize to fill even one drum. Therefore this drum distribution guideline will result in more and very worthy households receiving one drum, rather than allowing a “rent capture” situation where some families would receive more than their fair share of subsidized maize storage drums.

73. **Drum delivery** will be organized by the Project’s P/LO in close coordination with the DCs, DDCs and PFs. Drums will be delivered according to an agreed schedule and two week’s notice will be given to the Suco and Aldeia Chiefs prior to drum delivery, to enable them to organize recipients and to ensure that target households have their \$10 per drum co-payments available on the day of drum delivery. Drums ex-Dili will be transported at Project cost (using local trucking contractors) to holding-yards at the district level, which will be securely fenced and guarded. Drums will then be transported (Project cost and local transport services) from district centres to sucos.

74. Once drums are delivered to the suco level they will be ready for distribution by the PFs to drum recipients, against collection of the drum tickets distributed to approved families after the verification process referred to above, and after collection of co-contributions. These households will then be responsible for the transportation of their 1-2 drums from the suco centre to their homes, either by rolling along local tracks or transportation on horse-back.

75. The PFs will assist the M&EO, the national short-term (1 month per year) M&E Specialist (M&ES), and the PHSS with field implementation of various M&E activities, including a baseline storage loss assessment, the drum use monitoring programme, and annual PIAs, as required. Annex 6 contains more details on the Project’s M&E Framework.

76. **Drum promotional materials** (all in Tetun) will include: (i) promotional flyers to promote the Project - its objectives, implementation procedures, responsibilities, etc., designed to ensure that all potential beneficiary households are aware of what the Project has to offer and the specific drum legibility criteria; (ii) promotional posters for display in prominent positions – markets, schools, Suco Council offices, churches, etc.; (iii) information leaflets and posters food security and nutrition, and on drum use and maintenance; and (iv) drum stickers (badging and drum use/ maintenance).

77. **Component 2 will support the emerging commercial drum** market by piloting drum distribution through selected agents in district markets. This will involve selecting one agent per district who will be supported with training and promotional materials and provided with drums at a subsidised price of \$20 each, for resale at full market price. TLMSP will also provide drums, at full CIF cost in Dili, to NGO partner networks which are involved in distributing drums⁶⁴. This will increase local exposure to drums in areas not covered under Phase I, but where the Project might

⁶³ In mixed farming areas it will be important to only target those households which are predominantly dependent on maize.

⁶⁴ Maximum of 10% of the drum distribution target, and cost-neutral as the Project will sell drums to NGOs at the full CIF Dili compound price.

become active in subsequent phases. Before agreeing to supply drums to partner NGOs these organizations will be asked to confirm: (i) they are not planning to distribute in TLMSP's initial target districts/ sub-districts; and (ii) they agree to charge a co-payment of \$10 per drum from recipients.

d. OUTPUT 3: Efficient Project Management and Coordination

78. Annex 5 (Implementation Arrangements) contains details on how the Project will be managed and coordinated. This output will be achieved through: (i) the establishment and operation of a PMU at the national (Dili) level, and DCOs at district level; (ii) the appointment and training of direct-hire DCs, DDCs and PFs to work in the districts, sub-districts and local communities; and (iii) the design and operation of a Project M&E system. A PMU consisting of a Project Manager (PM) (international appointment); and Financial Officer (FO), Procurement/ Logistics Officer (P/LO), and M&E Officer (all national staff); and administration support staff, will be based in MAF's Dili complex. The PMU will be supported by a short-term international Post-harvest Storage Specialist (PHSS); and a national M&E Specialist (M&ES). Detailed implementation arrangements and the drum organization and delivery mechanisms are detailed in Annex 5 (Implementation Arrangements).

79. Monitoring and evaluation (Annex 6) will encompass: (i) a baseline survey of maize storage practices and losses under traditional systems; together with (ii) periodic assessment of the utilisation of drums distributed by the Project (including degree of use, consumption patterns throughout the storage period, degree to which the recommended guidelines on drum management are being followed, and households' experiences and attitudes to using drums for maize storage). PIAs will be conducted annually as a separate exercise and will be designed to gain feedback on Project performance in terms of planning, implementation methodology, poverty targeting, beneficiary participation, and suitability of interventions; and overall impact on food security, poverty, income diversification, women, and the environment.

ANNEX V: IMPLEMENTATION ARRANGEMENTS

I. OVERVIEW

1. **Project Organization and Logic.** Appendix 1 is a Project Structure and Organization Chart which shows: (i) the Government of Timor-Leste's (GoTL's) administrative and local community structures, and the key local community (suco- and aldeia-level) staff who will be involved with Project implementation; (ii) the Project's structure and direct-hire staffing; (iii) the Ministry of Agriculture and Fisheries' (MAF's) project-specific structure and involved counterpart staff; and (iv) the linkages and coordination between the Project, MAF, and the Ministry of State Administration and Territorial Management (MSATM) (this ministry oversees Timor-Leste's local community staff) which are required for efficient Project implementation. The chart highlights those staff and counterparts with key field-level implementation roles (marked with an asterisk*).

2. The key field-level operatives with essential implementation roles will be: (i) the Suco Councils and Suco Chiefs, and Aldeia Chiefs, who will be responsible (with support from the Project's direct-hire Project Facilitators [PFs]) for the community organization activities prior to drum delivery; (ii) the PFs who will be the Project's key field-level implementers with support from the direct-hire District and Deputy District Coordinators (DCs and DDCs); and (iii) the DCs and DDCs who will supervise and support the PFs.

3. Because TLMSP is embedded in MAF (the Project Management Unit [PMU] will be located in MAF's Comoro complex) it is logical for the Project to work out of MAF's District Offices where this is practical in terms of the availability of office space and drum storage facilities. Therefore, it is also logical for the Project to liaise with MAF's district- and suco-level staff (detailed in para 4, [ii]) but without relying on these staff for day-to-day implementation responsibilities. It will be important for MAF's District Directors (DDs) to be aware of Project activities in their districts, and for MAF's staff with responsibilities for food crops and food security to be able to collect Project-generated information on local food supplies (production and stored).

4. TLMSP will work with three levels of MAF, MSATM and local community staff, as follows:

- (i) MAF will be IFAD's Lead Agency and at the national (Dili) level the Project will formally engage with MAF's National Directorate of Agriculture and Horticulture (NDA&H) (the Director of NDA&H will be the Project Manager's [PM's] direct counterpart). TLMSP's direct counterpart division will be NDA&H's Post Harvest Management Division (PHMD). Staff from the Director General's (DG's) Directorate (Finance and Procurement Divisions) will work closely with the Project's Finance Officer (FO) and the Logistics/ Procurement Officer (P/LO) who, along with the PM, will be based in the PMU⁶⁵. There will be a legal agreement for Grant administration between IFAD and GoTL's Ministry of Finance (MoF).
- (ii) At the district and sub-district levels the Project's DCs and DDCs will liaise closely with MAF's DDs, Food Crops Officers (FCOs), Food Security Officers (FSOs), and Post Harvest Management Officers (PHMOs) and work out of MAF's District Office when space is available⁶⁶. The DCs and DDCs will work with MSATM's District and Sub-District Administrators (DAs and SDAs) to ensure close coordination and cooperation with the Suco Councils, and the Suco and Aldeia Chiefs, and to establish day-to-day cooperation with the PFs.
- (iii) The direct-hire Project Facilitators (PFs) will be the primary interface between the Project and the target beneficiaries. The PFs will work informally with MAF's Suco Extension Officers, if they have time available and are interested in assisting with the pre- and post-drum delivery activities⁶⁷. The PFs will work closely with the Suco Councils and their Chiefs, and the Aldeia Chiefs, to ensure that the pre drum delivery activities (Section IV) are implemented as planned and that beneficiaries are targeted as outlined in Annex 2.

⁶⁵ The PMU will be located in a refurbished room in MAF's now unused laboratory.

⁶⁶ The costings are based on the Project being able to use three out of five of MAF district offices.

⁶⁷ Note: MAF's SOEs are now expected to act as the primary deliverers (and reporters and monitors) of a large number of projects which focus on agriculture and rural development. Therefore the design of TLMSP is not dependent on the SOEs always being available to assist the PFs with their drum delivery activities.

- (iv) Local Partnerships with, for example Seeds of Life Phase III and Rural Development Programme IV, will be important in order for TLMSP's complementarity to be fully expressed. The PFs will have an important role in terms of encouraging cooperation and information sharing between TLMSP and these complementary Programmes.

5. **Implementation Mechanism.** The district and sub-district administrative system, and the local community suco and aldeia structures, have been selected as the Project's in-field implementation mechanism because: (i) officials in the districts and sub-districts, and community-level officials (Suco and Aldeia Chiefs) have very good understandings of local agricultural production systems and food security situations; (ii) these local officials are also experienced deliverers of community development initiatives and support programmes; and (iii) if these mechanisms are used there is no need for institutional capacity building programmes as precursors to Project implementation.

6. There is no logic in developing and supporting a parallel drum delivery mechanism through a GoTL line ministry as this approach will require considerable lead-time, training and budget; and is not required for sustainability. The district, sub-district, suco, and aldeia network is keen to assist with implementation and confirmed its willingness to cooperate with TLMSP during the design process. Similarly, MAF's has proposed and agreed for the Project to be embedded in the NDA&H, with a PMU at the Dili level which is staffed with direct hire personnel, and for the DC and DDCs to work out of MAF's District Offices.

7. **Project Steering Committee.** Appendix 1 (Organization Chart) shows how the Project will be structured. A Project Steering Committee (PSC) comprising: (i) the Director General of MAF (Chair); (ii) the Director of MAF's NDA&H; (iii) a representative from MoF (Vice Minister); and (iv) the DAs from the district/s where the Project is currently operating. The PSC will provide overall Project direction and guidance, based on the Project Design Report (PDR) and the Project Implementation Manual. The Committee will be responsible for coordinating the provision of Government support (national and district levels); for coordinating Project activities with Government programmes (e.g. Seeds of Life III [SoL III]); and for providing policy support where required.

8. The PSC will meet twice a year in Dili (with pre-meeting field trips as appropriate) and be responsible for setting overall Project strategy, recommending any design and budget adjustments (if necessary), approving Annual Work Plans and Budgets (AWPBs), and approving and accepting Project accounts⁶⁸. Supervision of the Project will be carried out directly by IFAD as an ongoing process of implementation support, with twice-yearly supervision missions coinciding with the PSC meetings. Annex 7 details the financial management and funds disbursement arrangements.

9. **Project Management Unit.** The next level of Project management below the PSC will be the in-country PMU, located in MAF's Dili complex and responsible for day-to-day Project implementation and staffed as listed in para 4 (i). The PMU will manage the DCs and DDCs, who will work out of either temporary rented District Coordination Offices (DCOs) or out of MAF's District Offices, depending on space availability. The DCOs will be established in current target districts and operate for a period of about one year, or until the drum roll-out programme and associated training activities in the district have been completed. The DCs and DDCs will, in turn, manage the PFs whose key role will be to work closely with the Suco and Aldeia Chiefs to select beneficiary households, organise drum delivery, train recipients in drum use and maintenance, and conduct periodic monitoring activities (para 21).

10. **At the PMU and DCO level** linkages will be established with MAF's Food Security Unit (FSU) and the Ministry's DDs, FCOs and FSOs based in the districts. The Project will provide its M&E data and information on drum use (and therefore food supplies) to the FSU for use at its discretion, and for submission to the national Food Security Committee. Similarly the DCs and DDCs will keep the FCOs and the FSOs informed of implementation progress and results, particularly in terms of food supplies in target sucros and aldeias. The design contains provision (and small budgets) for regular coordination and information sharing meetings at the Dili and district levels, as well as more formal coordination arrangements – para 14.

II. START-UP AND PROJECT MANAGEMENT UNIT

11. **Start-Up Activities.** IFAD will provide MAF with implementation support (through the refunding of approved retro-active expenditure) during start-up to facilitate the setup of the PMU (refurbishment,

⁶⁸ Note: MAF will sign-off on the withdrawal applications.

office equipment and furniture, etc.) and the appointment of key PMU staff – the PM, FO and P/LO. Terms of Reference for all Project staff are detailed in Appendix 2.

12. **Project Management.** MAF will establish a small PMU in a currently unused office in the old laboratory in the Comoro complex. Core PMU staffing will include the PM, FO, P/LO, Monitoring and Evaluation Officer (M&EO), plus administrative and support staff. The PM has been budgeted as an international appointment; all other positions will be national. Due to the nature of the Project, the requirement for Technical Assistance (TA) is relatively modest and will be limited to a Post-Harvest Storage Specialist (PHSS) (4.5 months, international); and an M&E Specialist (M&ES) (three months, national). Provision has also made for a further three months of unallocated national TA. All Project staff will be directly responsible to the PM. The PM will work as the counter-part of MAF's Director of the NDA&H, and also with the DG of MAF (and his finance and procurement staff) for procurement and financial management procedures.

13. The Project will be run on a day-by-day basis out of the PMU which will be supported with: (i) office equipment, transport, computers and printers, communications, etc.; (ii) an office operations budget; (iii) a training budget for start-up and refresher courses for PMU and district staff (DCs, DDCs and PFs); (vi) budget for mid-year and annual planning/ review workshops, and quarterly coordination meetings at the district and national levels; and (v) budget for an annual lessons learned workshop with all stakeholders.

14. The PMU will be responsible for organizing the procurement and/ or manufacture of 200L maize storage drums and their delivery into a secure compound in Dili. This will entail: (i) calling for international or national quotations according to previously agreed specifications and delivery lot sizes and quality control; (ii) reviewing/ assessing and accepting offers; (iii) organizing direct payment by IFAD and approving letters of credit prior to shipment; and (iv) organizing drum clearance from the Dili port and transport to a secure compound. Once the drums have been delivered to Dili, transport to the districts (where it is expected that MAF's District Offices will provide secure storage space) will be scheduled in phase with the drum delivery schedule organized by the PFs, and based on local demand (see below for more details on this process).

15. The PM will be responsible for ensuring that the DCs and DDCs fulfill their tasks in the districts, the most important of which will be ensuring that the PFs are working effectively in the sucos and aldeias, as well as liaising with DAs and DDAs; and DDs, FCOs and FSOs. Generation of realistic and accurate drum delivery schedules will be an important task for the PFs, with support from the DCs and DDCs. Failure to complete this task on time could lead to delays in drum delivery. However the PFs are not just responsible for the preparation of drum delivery plans, see Section IV.

16. The FO will be responsible for maintaining Project accounts, in a form to be decided when the Project Implementation Manual (PIM) is finalized, preparation of Withdrawal Applications (WAs), and acquittals of expenditure against previous advances. The FO will also be responsible for ensuring that Project personnel maintain the required records (with receipts) of field-level expenditure. This will require the maintenance of a simple set of accounts at the district level so that the DCs, DDCs and PFs can account for their operational expenditure⁶⁹.

17. The PM will provide periodic progress and financial expenditure reports to MAF and IFAD, as specified in Annex 7 and to be further defined in the PIM. The progress reports will cover: (i) achievements against targets in the period under review; (ii) the plan for the next reporting period; (iii) issues and constraints which arose during the period under review, and recommended remedial actions; (iv) outstanding/ unresolved issues; and (v) a brief over-view of the work plan for the next period.

18. Six Monthly Progress Report (including physical and financial records for the period) will be prepared and submitted to IFAD for approval, through the PSC. These will contain a section on lessons learned and describe how the lessons will be factored into the next AWPB, and disseminated to key stakeholders. The PM will also be responsible for preparing the AWPBs for approval at a PSC meeting.

⁶⁹ By the time the Project commences Timor-Leste should have an operational 3G wireless network so it should be possible to transfer accounts electronically.

III. DISTRICT COORDINATION OFFICES

19. **The Project will establish a temporary District Coordination Office (DCO)** (either rented or based in MAF's District Offices⁷⁰) for a period of approximately one year in each target district. If suitable premises are not available, the budget can be used to refurbish an abandoned/ derelict building under control of the District Administrator, subject to a formal agreement being established permitting the Project to use the building rent-free for the year. The DCO will be staffed with a DC, a DDC and a small team of PFs (a total of 26 PFs will be required by PY3 when the Project will be working in two districts⁷¹). The DC and his/ her assistant and will work closely with the district administration including DAs, SDAs, and Sub-District Community Development Officers (CDOs) to organize the Project at the district level. The DCO will be supported with transport, computers, communications, and operating funds to cover the costs of field work and community meetings.

20. **The DCO will also work closely with MAF's District Office** and the relevant MAF staff based in this office (DDs, FCOs, FSOs and PHMOs) with the objective of ensuring that these staff are aware of Project activities, have the opportunity to be involved with pre- and post-drum delivery activities (if they have time) and have access to information and data on food availability which is generated by the Project's monitoring activities.

21. **The PFs (the Project's key operators in the field) will be supported** with transport (motorbikes), communications, travelling allowances, and miscellaneous equipment, plus an initial intensive induction course followed by annual refresher training and mentoring by the DCs and DDCs. PFs will be expected to stay in the sub-district centres during the week, and will be paid an additional accommodation allowance (for rental or private board) to facilitate this. Key roles will include working with Suco and Aldeia Chiefs, and representatives from local councils, to implement a series of community sensitization and awareness raising activities, select beneficiary households, manage the drum distribution programme, and provide follow-up support in drum use and maintenance – see below for details on these sequential activities.

22. **The DC's and DDC's most important tasks** will be oversight and mentoring of the PFs, as well as liaison with the DAs, SDAs (and in some instances the CDOs, depending on their interest in the Project). Whilst the DAs will not have formal responsibilities under the Project it will be important to keep these officials informed of plans and progress, so that if required they can assist with, for example, local drum storage and logistics, and the organization of sub-district and suco meetings if the DCs, DDCs and PFs encounter difficulties when attempting to work through this network. The key to success will be regular and informal dialogue at the district level between the DAs and the DCs.

23. **At the suco and aldeia levels** the PFs will work informally with MAF's SEOs (who are resident in all agricultural sucos⁷²) when identifying and selecting target beneficiaries, and delivering training in drum use and maintenance. This will allow the SEOs to have an on-going but informal role in assisting drum recipients to use drums for their intended use, but not make TLMSP dependent on the SEOs being in place, or operational.

24. The SEOs will be supported with TLMSP's pamphlets and instructions on drum use and maintenance. Having an association with the Project is also expected to assist the SEOs with their task of completing monthly reports on suco-level food supply and production, a system recently established by MAF's FSU. In addition the Project will: (i) provide limited support to the FSU to promote its draft Policy on On-farm Grain Storage; and (ii) work closely with SoL III to ensure that the complementarity between the two Projects is fully expressed in the forms of increased maize production and reduced storage losses, which could potentially result in a 70% net increase in maize production.

IV. PRE- AND POST-DRUM DELIVERY ACTIVITIES

25. Prior community awareness raising and organization activities are critical pre-cursors to drum delivery and will be completed in a participative and gender-inclusive manner. These activities will be

⁷⁰ The costings assume that MAF will be able to supply adequate office and drum storage space in three out of the five target districts.

⁷¹ Nine PFs will be appointed in PY1.

⁷² However it seems that some SEOs reside in district centres and only visit their sucos when transport is available and/or there is a specific instruction from MAF to promote a particular agricultural project.

undertaken by the PFs and are listed below. Figure 1 is an agricultural calendar for Aileu District which has been over-laid with the sequence of pre- and post-drum delivery activities described below. This shows how tight a full cycle of community preparation, drum delivery and follow-up activities will be. The figure indicates that there will be little spare time if some steps need to be repeated, and that overall Project implementation will be delayed if events (such as continuous heavy and/ or un-seasonal rain) cause delays in the PFs' field work activities.

26. These activities have been described in detail as they are the most important field-level activities which, in summary, will: (i) raise community awareness about the use of drums for maize storage; (ii) identify and then select recipient households ensuring that female-headed households are included; (iii) organize the delivery of drums to the suco level, after which recipients will be responsible for transportation to their homes; and (iv) train recipient households in drum use and maintenance. Annex 2, Section V contains more details on the Project's community-based participatory consultation and drum distribution mechanisms.

Step-by-step Activities Leading up to and Including Drum Delivery

(xv) Meeting with District Administrator and Team

The drum delivery process will start with an introductory meeting at the district level between the DA and his/ her team, and Project Staff – the PM, the DC and the DDC. The meeting agenda will cover:

- Introduction and presentation of a Project outline – objectives, proposed delivery mechanisms, key roles and tasks, support budget available, etc.
- Identification of sub-districts (and if possible sucos) which are suitable for intervention (meet targeting criteria) based on poverty levels, high potential for maize production, major maize or mixed farming systems, and farmers currently reliant on maize as their main staple.
- Miscellaneous: request space for drum storage in the district centre (possibly in the DA's office compound, or in MAF's District Office compound), organize office space (MAF's District Office or rented) and arrange a supporting letter⁷³.

(xvi) Meeting at Sub-District Level with Suco Chief (Half day)

After the district-level meeting, a follow up meeting will be held in each sub-district with the SDA and his/ her team, Project Staff (DC, DDC and PF), Suco Chiefs, Community Development Officer (if available) and representatives from NGOs and Community-Based Organizations (CBOs) currently working with the targeted sub-district. The meeting will discuss the following agenda:

- Introduction and presentation of Project (as above).
- Identification of sucos (and if possible aldeias) which are suitable for intervention (meet targeting criteria) based on poverty levels, high potential for maize production, major maize or mixed farming systems, and farmers currently reliant on maize as their main staple.
- Distribution of initial promotion materials to Suco Chiefs.

(xvii) Meeting at Suco-Level with Suco Council Members

The PFs will then hold an introduction meeting with members of the Suco Council and relevant stakeholders such as NGOs, CBOs and SEOs, if available. The meeting will discuss the following:

- Introduction and presentation of Project (as above)
- Explanation of criteria to be used to compile lists of households who are eligible to receive subsidized maize storage drums, and stressing the importance of including female-headed households.
- Distribution of promotional material to the Suco Council.

After the meeting, the PF will work on additional tasks such as:

⁷³ This letter will state that the District Administrator supports the implementation of TLMSP in his/ her district.

- Collation and finalization of target lists (eligible households), to be completed after one week.
- Preparation of an informal socialization event which will be informal and entertaining, and include the provision of advice on food security and child nutrition.

(xviii) Socialization Event – Suco/Aldeia Level (half day)

The objective of this event is to promote drum usage (including the provision of information on the advantages of drums, financial contributions, verification and delivery mechanisms, and household selection criteria). To avoid misunderstandings the PFs will need to clearly explain the eligibility criteria to potential beneficiaries. This socialization event will be implemented by the PFs appointed to work in a target suco and attended by relevant community members as invited, and Suco and Aldeia chiefs. The event will be informal and entertaining.

(xix) Verification process – Aldeia/ Household Level, (two days per Aldeia)

The objective of the verification process is to double-check and verify the list of eligible households and to hand out tickets (required to collect drums) to recipient households. This task will be carried out by the PF with assistance from a volunteer (Suco and/ or Aldeia Chief and/ or his/her representative). After the verification process has been completed the PF will prepare a drum delivery plan and schedule with the DC, and schedule drum delivery in close cooperation with Suco Councils and the P/LO in the PMU in Dili. A minimum of two weeks notice will be given in advance of drum delivery to the Suco Council so that the Chief or his/ her representative can organize recipient households for drum collection.








(xx) Drum Delivery Day – Suco Level, one day (with possible prior transport of drums to the Suco)

The objectives of drum delivery day are: (i) to distribute drums to the selected recipients (household beneficiaries) against the entitlement tickets which were previously issued; (ii) collection of co-contributions of \$10 per drum; and (iii) announcement of a forthcoming drum use training day. This event will be organized by two PFs and the DC, or a third PF, and be attended by drum recipients and Suco Council members. An additional task after drum delivery will be to organize a drum use training day in coordination with the Suco and Aldeia Chiefs, plus follow-up on the food security situation and household nutrition.

(xxi) Drum Usage Training Day – Suco or Aldeia Level (depending on number of recipients), half-day

The objective of the drum use training day is to explain/ demonstrate how to use drums to store maize. Training will include proper maize drying and storage techniques. The training will be carried out by the PFs with participation by: (i) the Chief of the relevant Aldeia; (ii) SEOs (if available); (iii) representatives from CBOs; (iv) representatives from the relevant Suco Council; (v) drum recipients; and (vi) a representative from SoL (if possible). The day will also be used to run refresher courses on food security and household nutrition.

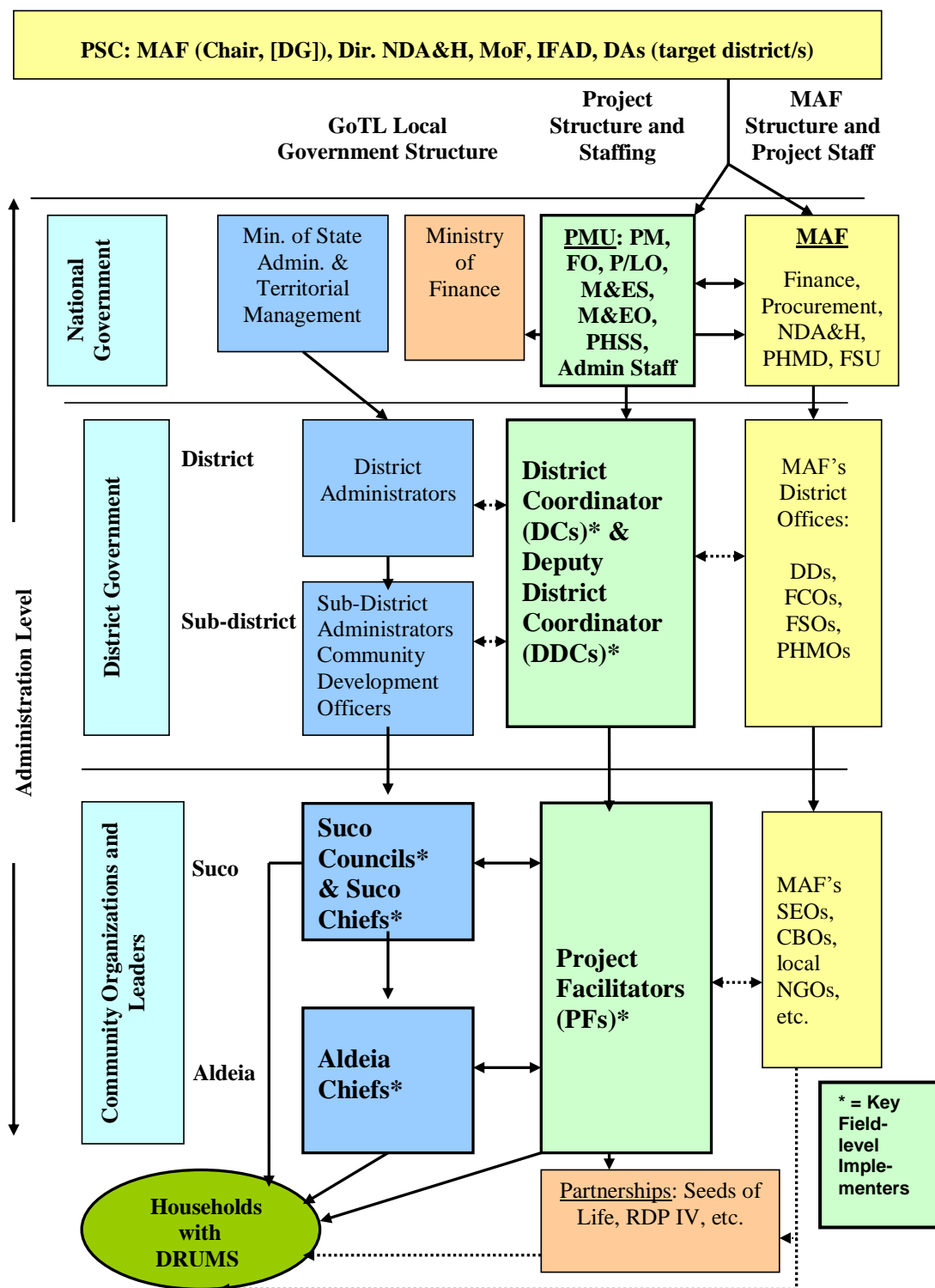
Figure 1: Agricultural Calendar for Aileu District and Pre-and Post-Drum Delivery Steps

Month →	November		December				January				February				March				April	May
Season →	 NORMAL RAIN		 HEAVY RAIN				 HEAVY RAIN				 HEAVY RAIN				 HEAVY RAIN				 NORMAL RAIN	 HOT and SUNNY
Maize growing season	Planting		Weeding				Weeding				Harvest short season maize and weeding				Harvest long season maize				Drying and storing Maize	
Delivery Activities->	w1	W2	w3	w4	w5	w6	W7	w8	w9	w10	w11	w12	w13	w14	w15	w16	w17	w18	w19 – w22*	w23- w26*
Meeting with District Administrator and Team																				
Meeting At Sub-District Level With Suco Chiefs																				
Meeting at Suco Level with Suco Council Members																				
Socialization Event – Suco /Aldeia Level																				
Verification process																				
Drum Delivery Day – Suco Level																				
Drum Usage Training Day																				

* Represents 4 weeks

W = week

Appendix 1: Project Structure and Organization Chart



Appendix 2: Terms of Reference for all Project Staff

1. Project Manager (long-term) (PM)
2. Procurement/ Logistic Officer (long-term) (PL/O)
3. Finance Officer (long-term) (FO)
4. District Coordinators (long-term) (DCs)
5. Deputy District Coordinators (long-term) (DDCs)
6. Project Facilitators (long-term) (PFs)
7. Monitoring and Evaluation Specialist (short-term) (M&ES)
8. Monitoring and Evaluation Officer (long-term) (M&EO)
9. Post Harvest Storage Specialist (short-term) (PHSS)

Position Title: Project Manager (PM)

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries (MAF) in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the Director of MAF’s Directorate of Agriculture and Horticulture.

Works together with: In addition to leading the PMU team based in MAF, the PM will be expected to develop and maintain a close working relationship with the Director General (DG) of MAF who will Chair the PSC and be responsible for overall Project implementation. The PM will report to the Director of MAF’s Directorate of Agriculture and Horticulture. On a day-to-day basis the PM’s direct counterpart will be the Head of the Post Harvest Management Division in the Directorate. He /she will also liaise with various MAF Divisions which have roles in food production and storage, and with the National Food Security Unit which is based in MAF.

Location: Dili, with frequent travel to districts as required.

Duration: Three years from about February 2012 to end January 2014.

GENERAL DESCRIPTION

The PM will:

- provide strategic and operational leadership to the Project, ensuring it is implemented in accordance with the intention of the PDR, the agreement between GoTL (MAF) and IFAD, and the approved Annual Work Plans and Budgets;
- ensure the overall quality of Project implementation, PMU management, personnel development, stakeholder relations, reporting, and adherence to contract conditions; and
- pay particular attention to establishing a strong working relationship with the DG of MAF and Director of the Agriculture and Horticulture Directorate.

KEY TASKS AND RESPONSIBILITIES

The PM will:

1. Ensure the strategic direction of the Project is maintained in accordance with the PDR and AWPBs.
2. Guide and mentor Project personnel in the planning and implementation of field activities.
3. Ensure collaborative working relationships are developed amongst primary stakeholders, including key GoTL agencies (especially MAF), related projects (e.g. Seeds of Life), and other projects embedded in MAF (e.g. Rural Development Programme IV).
4. Liaise with MAF’s National Food Security Unit to ensure that TLMSP’s data and information on food supplies are integrated into this system.
5. Establish and maintain a close working relationship with the DG of MAF as the Chair of the PSC, with the Director of MAF’s Agriculture and Horticulture Directorate as his/ her direct counterpart, and on a day-to-day basis the Head of MAF’s Post Harvest Management Division within the Directorate.
6. Coordinate periodic (every two weeks) management meetings to be held with the DG, MAF’s Procurement and Finance Divisions, the Director of the Agriculture and Horticulture Directorate, and the Head of the Post Harvest Management Division; and coordinate the implementation of decisions arising from these meetings.

7. Oversight the establishment and operation of Project planning, reporting and M&E systems, ensuring that these are appropriately integrated with relevant MAF systems; including finalization of the Project's Monitoring and Evaluation Framework – with the short-term Monitoring and Evaluation Specialist.
8. Under the guidance of the short-term Post Harvest Storage Specialist (PHSS), assist (through the District Coordinators and Deputy District Coordinators) with field-level R&D into alternative types of maize storage containers, and conduct surveys, etc., on drum use, etc., as planned by the PHSS.
9. Over-seeing all M&E activities, with support from the long-term Monitoring and Evaluation Officer.
10. Establish robust financial and administrative systems for the Project, with support from the Financial Officer and the Logistic/ Procurement Officer. Monitor the use and acquittal of Project funds, ensuring funds are applied in line with the PDR and approved AWPBs.
11. Manage the human and financial resources of the Project in accordance with GoTL's and IFAD's Guidelines, and relevant GoTL and IFAD policies, and be responsible for OH&S, and quality assurance.
12. Coordinate the preparation of all reports, workplans and manuals; including Six-Monthly and Annual Reports – for presentation to the Project Steering Committee and IFAD. As part of the six-monthly report, the PM will also be required to monitor and provide a brief analysis of major risks.
13. Monitor management performance in terms of learning; and improvements to the implementation approach, and management systems; and report in the six-monthly Progress Reports.
14. Liaise with other donors working in Timor-Leste and actively investigate opportunities for linking with other initiatives involved in improving food security.
15. Analyse and synthesise Project experiences and actively contribute to the on-going refinement of GoTL's strategy for on-farm food storage, with the objective of laying the foundation for scaling up in subsequent phases.

SKILLS AND EXPERIENCE

The successful candidate will have:

1. A post-graduate degree from a recognized University in a relevant field – preferably rural development.
2. At least 8 year's experience working in international development.
3. A general understanding of the process and issues involved in on-farm storage of staple food crops, especially maize; and in the identification and promotion of improved grain storage systems which are suitable for subsistence farmers.
4. Proven managerial skills, particularly in:
 - a. Planning, administration and financial management of donor projects;
 - b. Working with and coordinating a team of professionals;
 - c. Coordinating geographically dispersed development activities;
 - d. Leading IFAD or other donor development activities; and
 - e. Liaising with government and non-government organizations.
5. Demonstrated ability to establish strong working relationships with national counterparts at a senior level.
6. Well developed skills in: inter-personal communication; report writing; numeracy; analysis; and networking.
7. Good computer literacy.
8. Fluency in English, some Tetum preferred.

Position Title: Procurement/ Logistics Officer (PL/O)

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries (MAF) in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the Project Manager (PM) and providing the PM with procurement and logistics support, the PL/O will work closely with MAF’s Heads of Finance and Procurement to assist them with their Project responsibilities, and to build capacity for subsequent phases. The PL/O will also liaise closely with the Project’s FO, and with the DCs to organize and implement 200L drum delivery schedules.

Location: Dili, with some travel to the districts as required for Project reporting, meetings, etc., and to coordinate the delivery of drums to target districts.

Duration: Three years (from about February 2012 to end January 2014).

GENERAL DESCRIPTION:

The P/O will have: (i) overall responsibility for assisting the PMU to procure the Project’s main investment items – 200L drums, vehicles and office equipment; and (ii) to plan and coordinate the delivery of drums to the target districts. He/ she will assist the PMU in understanding and applying IFAD’s 2010 Procurement Guidelines, policies and procedures and its related Procurement Handbook. This will require comprehensive knowledge of Timor-Leste procurement rules and procedures, as well as procurement rules and procedures of the larger International Financial Institutions such as the World Bank and the Asian Development Bank.

KEY TASKS AND RESPONSIBILITIES

For Procurement, the P/O will:

1. Become familiar with international commercial procurement practices and IFAD’s Procurement Regulations.
2. Prepare the initial 18-month procurement implementation plan (draft available) and the plans to be attached to each Annual Work Plan and Budget, to be submitted to IFAD for approval.
3. Periodically update the procurement plan and report to the PM on the status of actual achievements versus projections.
4. Arrange appropriate advertisements when necessary in Development Business and/ or other media for the procurement of works, goods and consulting services required by the Project.
5. Advise on issues relating to procurement and propose solutions to solve procurement issues in coordination with the PMU and IFAD.
6. Prepare, review and modify bidding documents - these consist of works, goods and consulting services for the PMU.
7. Determine and provide (for a nominal fee) bidding documents to prospective bidders, crediting the funds received to the Project’s Designated Account.
8. Conduct the procurement process for each contract, commencing with the preparation of bid documents, receiving “no-objections” from IFAD when required, followed by the invitations for bids.
9. Provide clarifications in response to potential bidders’ questions; and prepare any amendments, if necessary.
10. Conduct the bid opening process and prepare the minutes of bid opening.

11. Evaluate the bids (and consultant's proposals) and submit a bid evaluation report to the PM with recommendations for awarding the contract; review the draft contract and obtain "no objection" for evaluation report and draft contract from IFAD when necessary.
12. Prepare correspondence and coordinate with IFAD regarding its approval of the proposed contract awards, following the PMU's recommendations. Ensure the forwarding of two copies of signed contracts to IFAD to facilitate disbursement.
13. Assist with correspondence and actions needed with the designated bank for handling payment mechanisms including the modality of Letter of Credit procedure for the goods ordered, and enabling withdrawal of grant proceeds from IFAD or from the designated bank.
14. Maintain a Contract Register for all the contracts signed under the Project whether at PMU-level or at district-level.
15. Ensure that each contract signed under the Project and all the correspondence and documents related to the award of contracts are maintained in separate folders for easy retrieval by IFAD's supervision missions and external auditors.
16. Ascertain that proper documentation is kept and maintained by each implementing unit with procurement functions.
17. Develop a procurement tracking system for use by the PMU. Maintain separate files for each procurement method such as IS, NCB, QC, CB, SS, DC, etc. for goods, works and consulting services, in addition to general files for corresponding with IFAD notices to interested firms, etc.
18. Review and revise the procurement plan following the agreed procurement methods as part of the Grant Agreement, indicating the detailed step by step procedures for the procurement of the works, goods and consulting services required for Project implementation.
19. Prepare monthly procurement progress reports, and annual and half yearly procurement plans under IFAD's rules and guidelines.

For Logistics, the P/LO will:

1. Working with the DCs and DDCs, the PFs and the Suco and Aldeia Councils, plan drum delivery programmes which reflect the supplies required to satisfy demand as determined by the PFs working with the target communities.
2. Implement timely drum delivery to designated depots (districts and sub-districts) and then on to sucos – this will include the contracting (under the rules and regulations specified above) of local transport providers (small hired trucks) to deliver drums on time and in good condition, from Dili to the districts, and then onwards to sub-districts and sucos.
3. Design and implement a drum delivery quality control system to ensure that goods are delivered as required and in the condition expected.
4. Design and implement a drum location recording system to enable post-delivery feed-back in terms of drum use, maize stored, storage losses, etc.
5. Provide the PM and the PMU will regular and accurate reports (Monthly, Quarterly, and Annually) on the status of drum deliveries, assessed against the delivery schedules included in the Annual Work Plans and Budgets.
6. Advise the PM and the PMU on how to overcome drum delivery issues, including how to manage delays and reschedule deliveries.

SKILLS AND EXPERIENCE

The successful candidate will have:

1. At least a degree in Economics/ Finance/ Accounting.
2. At least five year's experience working in procurement/ logistics in Timor-Leste.
3. Previous experience with international procurement methods and procedures, and familiar with the procedures of large International Financing Institutions under loans and grants programmes.
4. Managerial skills, particularly in:
 - (a) administration and financial management of donor projects;
 - (b) logistics associated with the transport of large volumes of goods to isolated rural areas.
 - (c) working with and supporting a team of professionals;
 - (d) tracking and coordinating geographically dispersed development activities; and

- (e) liaising with government and non-government organizations.
- 5. Ability to establish working relationships with national counterparts at the Dili- and district-levels.
- 6. Skills in: inter-personal communication; report writing; accounting and numeracy; logistics organization and implementation, and results analysis.
- 7. Strong computer literacy – word, excel and proprietary accounting/ logistics packages.
- 8. Fluency in English and Tetum.

Position Title: Finance Officer (FO)

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries (MAF) in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the Project Manager (PM)

Works together with: the PM and the Head of Finance in MAF and his/ her staff

Location: Dili, with some travel to the districts as required for Project reporting, meetings, etc.

Duration: Three years, commencing in early 2012.

GENERAL DESCRIPTION:

Under the management of the PM, the FO will carry out the following tasks and duties:

1. Assist the PMU to understand and apply IFAD’s Financial Management Policies and Procedures and its related Loan and Grant Administration Operational Manual, Disbursement Handbook and Project Audits Procedures.
2. Maintain appropriate financial records and accounts in accordance with procedures to be established under a Project Implementation Manual as described in the Financial Management and Administrative Procedures Manual.
3. Ensure that these accounts follow generally accepted accounting practices, reflect Project progress; and record its resources, operations and expenditures.
4. Ensure that Project accounts reflect all financial transactions during the Project period - separately for the drums recipients and government counterpart financing of taxes, by Project component and by expenditure categories.
5. Maintain Project accounts independently from any routine budget account or other externally funded project account.
6. Prepare Withdrawal Applications and supporting documentation, replenishment and timely reconciliation of the Designated Account.
7. Submit replenishment applications at least every three months – these must include the Designated Account Reconciliation Statement and relevant supporting documentation including the documentation from the target districts.
8. Prepare monthly, quarterly, six-monthly and annual financial progress reports, with assistance from the PM.
9. Prepare responses and draft correspondence regarding IFAD financial matters.

SKILLS AND EXPERIENCE

The successful candidate will have:

1. A degree in accounting/finance from a recognized University, at least 5 year’s experience working as a FO in Timor-Leste, and experience with a Project/Program financed by an external donor.
2. Familiar with procedures of large International Financing Institutions under loans and grants programs.
3. Strong working knowledge of related financial management and disbursement requirements as well as proficiency in the use of the computerized accounting systems.

4. Familiar with financial aspects of contracts (bank guarantees for advance payments, retention money, delivery aspects and guaranty, custom clearance, Letters of Credit, etc.)
5. A sound knowledge of Timor-Leste's financial systems and the rules and procedures applied by large International Financial Institutions such as the World Bank and the Asian Development Bank in development finance.
6. Good managerial skills, particularly in:
 - a. administration and financial management of donor projects;
 - b. working with a team of professionals;
 - c. managing the financial aspects of geographically dispersed development activities; and
 - d. liaising with government and non-government organizations.
7. Ability to establish working relationships with national counterparts.
8. Skills in: inter-personal communication; report writing; numeracy; analysis; and networking.
9. Excellent computer literacy.
10. Fluency in English and Tetum.

Position Title: District Coordinators (DCs) – one per target district

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries (MAF) in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the Project Manager (PM)

Works together with: In addition to leading the Project team (Deputy District Coordinator [DDC] and Project Facilitators [PFs]) based in his/ her target district for Project planning and implementation, the DC will be also be expected to develop and maintain a close working relationship with the District Administrator resident in the target district/s; and MAF’s District Director and his/ her staff. The DC will report to the PM, and on a day-to-day basis will be responsible for overseeing the work of the DDCs and the PFs. The will be required to prepare Quarterly Progress Reports (based on Monthly Progress Reports from the PFs) for submission to the PM.

Location: Districts, with some travel to Dili as required for Project reporting, meetings, etc.

Duration: Maximum of three years (from about February 2012 to end January 2014), depending on the phasing of target districts into the Project.

GENERAL DESCRIPTION

The DC will:

- work closely with GoTL’s district administrative structure (District Administrators, Sub-District Administrators, District Community Development Officers, Chefe de Sucos and Suco Councils, Aldeia Chiefs, and women’s groups at the suco- and aldeia-levels); and with MAF’s District Director (DD) and his/ her staff - the Food Crops Officers (FCOs), Food Security Officers (FSOs), and Post Harvest Management Officers (PHMOs).
- provide operational leadership of the Project at the target district level, ensuring implementation in accordance with the specific work plans and budgets for his/ her target district; and
- ensure efficient district-level Project implementation, including management of the district office, local personnel development, local stakeholder relations, reporting, and adherence to contract conditions.

KEY TASKS AND RESPONSIBILITIES

The DC will:

1. In his/ her district, ensure the strategic direction of the Project is maintained in accordance with the PDR and AWPBs.
2. Guide and mentor Project personnel in the planning and implementation of the sequential drum delivery activities (see Figure 1 in the annex).
3. Ensure collaborative working relationships are developed amongst district-level stakeholders, including key GoTL agencies (especially MAF), related projects (e.g. Seeds of Life), and other MAF projects (e.g. Rural Development Programme IV).
4. Coordinate periodic (every two weeks) management meetings to be held with the target district DAs, DDs, FCOs, FSOs and PHMOs, and the PFs, and coordinate the implementation of decisions arising from these meetings.

5. Oversight the implementation of the district-level Project planning, reporting and M&E systems, and ensure that these are integrated with the Project's PMU systems in Dili.
6. With the support of the short-term Post Harvest Storage Specialist (PHSS), assist with field-level R&D into alternative types of maize storage containers, and conduct surveys, etc., on drum use, etc., as planned by the PHSS.
7. Manage the district-level financial and administrative systems for the Project, with periodic support from the Financial Officer and the Logistic/ Procurement Officer based in Dili. This will include acquitting cash funds advanced from the PMU on a monthly basis and ensuring that funds are used according to the approved Annual Work Plans and Budgets.
8. Manage the Project's human and financial resources allocated to the district level in accordance with GoTL and IFAD Guidelines, and relevant GoTL and IFAD policies.
9. Coordinate the preparation of all district-level reports, workplans and manuals; including Quarterly Progress Reports for submission to the PMU.
10. Liaise with other donors working in the target district and investigate opportunities for linking with other initiatives involved in improving local food security.
11. Maintain a responsive relationship with the PMU by providing timely information, advice and recommendations on all TLMSP matters.

SKILLS AND EXPERIENCE

The successful candidate will have:

1. A degree from a recognized University (Timor-Leste or Indonesia) in a relevant field – preferably rural development.
2. At least five year's experience working in rural development in Timor-Leste.
3. Some understanding of the process and issues involved with on-farm storage of staple food crops.
4. Some managerial skills, particularly in:
 - a. planning, administration and financial management of donor projects;
 - b. working with and coordinating a team of professionals;
 - c. coordinating geographically dispersed development activities; and
 - d. liaising with government and non-government organizations.
5. Ability to establish working relationships with national counterparts at the district level.
6. Skills in: inter-personal communication; report writing; numeracy; analysis; and networking.
7. Basic computer literacy.
8. Fluency in Tetum, and with some English

Position Title: Deputy District Coordinators (DDCs) – one per target district

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the District Coordinators (DCs)

Works together with: the DC to lead the Project Facilitators [PFs]) based in his/ her target district for Project planning and implementation. Develops and maintains close working relationships with the Deputy District Administrator resident in the target district/s. Reports to the DCs and on a day-to-day basis responsible for assisting with the oversight of the work of the PFs, including spending time in the field with these staff. Will assist the DCs with the preparation of Quarterly Progress Reports (based on Monthly Progress Reports from the PFs) for submission to the PM.

Location: Districts, with some travel to Dili as required for Project reporting, meetings, etc.

Duration: Maximum of three years (from about February 2012 to end January 2014), depending on the phasing of target districts into the Project.

GENERAL DESCRIPTION

The DDCs will assist the DCs to:

- provide operational leadership of the Project at the target district level, ensuring it is implemented in accordance with the specific work plans and budgets for his/ her target district;
- ensure efficient district-level Project implementation, including management of the district office, local personnel development, local stakeholder relations, reporting, and adherence to contract conditions; and
- pay particular attention to establishing strong working relationships with GoTL’s district administrative structure (District Administrators, Sub-District Administrators, District Community Development Officers, Chefe de Sucos and Suco Councils, Aldeia Chiefs, and women’s groups at the suco- and aldeia-levels); and with MAF’s District Director (DD) and his/ her staff - the Food Crops Officers (FCOs), Food Security Officers (FSOs), and Post Harvest Management Officers (PHMOs).

KEY TASKS AND RESPONSIBILITIES

The DDCs will assist the DCs to:

1. In his/ her district, ensure the strategic direction of the Project is maintained in accordance with the PDR and AWPBs.
2. Guide and mentor Project personnel in the planning and implementation of drum delivery activities.
3. Ensure collaborative working relationships are developed amongst district-level stakeholders, including key GoTL agencies (especially MAF), related projects (e.g. Seeds of Life), and other projects embedded in MAF (e.g. Rural Development Programme IV).
4. Coordinate periodic (every two weeks) management meetings to be held with the target district DAs, DDs, FCOs, FSOs and PHMOs, and the PFs, and coordinate the implementation of decisions arising from these meetings.
5. Oversight the operation of district-level Project planning, reporting and M&E systems, ensuring that these are appropriately integrated with the Project’s PMU systems in Dili.

6. With the support of the short-term Post Harvest Storage Specialist (PHSS), assist with field-level R&D into alternative types of maize storage containers, and conduct surveys, etc., on drum use, etc., as planned by the PHSS.
7. Coordinate the preparation of all district-level reports, workplans and manuals; including Quarterly Progress Reports for submission to the PMU.
8. Liaise with other donors working in the target district and investigate opportunities for linking with other initiatives involved in improving local food security.
9. Maintain a responsive relationship with the PMU by providing timely information, advice and recommendations on all TLMSP matters.

SKILLS AND EXPERIENCE

The successful candidates will have:

1. A degree or diploma from a recognized University or college (Timor-Leste or Indonesia) in a relevant field – preferably rural development.
2. At least three year's experience working in rural development in Timor-Leste.
3. Some understanding of the process and issues involved with on-farm storage of staple food crops.
4. Some managerial skills in:
 - a. Working with and coordinating a team of professionals;
 - b. Coordinating geographically dispersed development activities; and
 - c. Liaising with government and non-government organizations.
3. Some ability to establish working relationships with national counterparts at the district level.
4. Skills in: inter-personal communication; report writing; numeracy; analysis; and networking.
5. Basic computer literacy.
6. Fluency in Tetum, and with some English.

Position Title: Project Facilitators (PFs) – 9 in Year 1, 14 in Year 2, 26 in Year 3

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the District Coordinators (DCs), with support from Deputy Districts Coordinators (DDCs)

Works together with: the Suco Councils, Suco and Aldeia Chiefs, and women’s representatives on local councils in his/ her target district for detailed, field-level planning and implementation of drum delivery. Develops and maintains working relationships with the Chefe de Sucos and Aldeia Chiefs in the target district/s. Reports to the DCs and on a day-to-day basis and responsible for detailed Project planning and implementation at the field level. Required to prepare Monthly Progress Reports for submission to the DCs.

Location: Based in districts and work in sucos and aldeias, with limited travel to Dili as required for Project reporting, meetings, etc.

Duration: Maximum of three years (from about February 2012 to end January 2014), depending on the phasing of target districts into the Project.

GENERAL DESCRIPTION

The PFs will:

- act as the key interface between the Project and the target households; and
- be responsible for community organization and awareness raising about the use of drums for maize storage, the organization of drum delivery, and post-delivery training and support.

KEY TASKS AND RESPONSIBILITIES

The PFs will be responsible for the following sequences of events in his/ her district:

1. Participate in the initial meeting with the DA and his/ her team, and with the DD and his/ her team as an observer - these meetings will be coordinated by the PM, the DC and the DDC. The meeting will: (i) introduce and present a Project outline; (ii) identify target sub-districts; and (iii) finalize local arrangements such as drum storage and office space.
2. Participate in the subsequent follow-up meetings at the sub-district level with the Suco Chiefs. These meetings will: (i) introduce and present the Project; (ii) identify the sucos which are suitable for intervention; and (iii) distribute promotional materials to the Suco Chiefs.
3. Take responsibility for the next meeting at the suco-level with the Suco Chief and the Suco Council members to (i) introduce and present the Project; (ii) explain the criteria to be used to compile lists of eligible households; and (iii) distribute promotional materials to the Suco Council. After these meetings, work on: (i) collation and finalization of target lists; and (ii) the preparation of a socialization event.
4. Take responsibility for the conduct the socialization event at the suco/ aldeia level, with the objective of promoting drum usage (including the provision of information on the advantages of drums, financial contributions, verification and delivery mechanisms, and household selection criteria). To avoid misunderstandings the PFs will clearly explain the eligibility criteria to potential beneficiaries.

5. Conduct the verification process at the aldeia/ household level to double-check and verify the list of eligible households and to hand out tickets (required to collect drums). This task will be carried out with assistance from a volunteer (Suco and/ or Aldeia Chief and/ or his/her representative).
6. After the verification process, prepare a drum delivery plan and schedule with the DC, and schedule drum delivery in cooperation with Suco Councils and the P/LO in the PMU in Dili.
7. Give a minimum of two weeks notice in advance of drum delivery to the Suco Council so that the Chief or his/ her representative can organize recipient households for drum collection.
8. Conduct a drum Delivery Day at the suco-level to: (i) to distribute drums to the selected recipients against their entitlement tickets; (ii) collect co-contributions of \$10 per drum; and (iii) announce a forthcoming drum use training day.
9. After drum delivery, organize a drum use training day in coordination with the Suco and Aldeia Chiefs.
10. Conduct a drum usage training day to explain/ demonstrate how to use drums to store maize, and how to dry maize prior to storage.

In addition, the PFs will be required to:

1. Maintain accurate records of where drums have been distributed, and the number of target families assisted.
2. Report to the DC and the DDC on problems/ issues associated with targeting, equity (including gender equity), drum delivery, and drum use; and make suggestions/ recommendations to improve the sequence of above-listed events.
3. Prepare and deliver timely Monthly Progress Reports on progress against drum delivery targets (for compilation by the DC and the DDC).
4. At the Suco-level work informally with MAF's SEOs so that the SEOs can follow-up on drum use and grain storage quantities (if time permits).

SKILLS AND EXPERIENCE

The successful candidates will have:

1. A diploma from a recognized collage in a relevant field – social science, rural/ community development.
2. At least two year's experience working in rural development in Timor-Leste.
3. Some understanding of the importance of maize as a staple food crop in Timor-Leste
4. Some experience:
 - a. Working within a coordinated team of Project staff;
 - b. Working in isolated rural areas in Timor-Leste; and
 - c. Working with government and non-government organizations.
5. Some ability to establish working relationships with poor rural communities at the suco- and aldeia-levels (training will be provided in this topic).
6. Some skills in community development and participation, basic report writing and basic numeracy; and a willingness to participate in Project-funded training and capacity building.
7. Some computer literacy preferred.
8. Fluency in Tetum, some English preferred.

Position Title: Monitoring and Evaluation Specialist (M&ES) (short-term, one month per year)

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the PM, with an informal reporting line to MAF’s M&E system in its Directorate of Policy and Planning; and to the Food Security Unit in the same Directorate.

Works together with: the Project’s long-term Monitoring and Evaluation Officer (M&EO), the Project’s short-term Post Harvest Storage Specialist, and all levels of field staff who collect and collate basic monitoring and impact data and information.

Location: Short visits to target districts, sucos and aldeias.

Duration: 1 month per year – total of 3 months.

GENERAL DESCRIPTION

The M&ES will be primarily responsible (with support from the PM) for the setup and implementation of the Project’s M&E Framework (MEF), and for interpretation and reporting of results and outcomes. He/she will work closely with and mentor the Project’s long-term M&EO who will be primarily responsible for M&E field implementation activities. The design and implementation of the MEF followed by the baseline survey will be important initial tasks, followed by periodic collection of data and information on drum use (appropriate or not), maintenance issues, and if requested by MAF’s Food Security Unit, village-level information on food stores and supplies. Report at the end of each assignment, and as requested by the PM.

KEY TASKS AND RESPONSIBILITIES

The M&ES will be responsible for setting up and overseeing the following tasks which will be implemented by the short-term PHSS and the long-term M&EO:

1. Design of the Project’s MEF in line with the Logframe’s verifiable indicators.
2. Identify outputs and activities to achieve outcomes as part of the annual planning process; with corresponding progress indicators incorporated into the AWPBs and reported against in the six-monthly Progress Reports.
3. Report against the mandatory KPIs for IFAD’s Results and Impact Management System (RIMS) – six monthly.
4. Establish a simple database (which will be maintained by the M&EO) which records the name and location (district, suco and aldeia) of all households who receive drums. (Work with the PFs, DCs and DDCs to complete this task).
5. Working with the short-term PHSS, establish and report (Year 1) on a baseline survey which accurately defines maize storage losses, and provides a better understanding of how traditional storage systems are managed in practice.
6. Set up systems to monitor the utilisation of drums distributed: (i) degree of use (*quantity* of grain stored in drums versus other forms of storage); (ii) consumption patterns during the storage period; (iii) the degree to which the recommended guidelines on drum management are being followed; and (iv) household’s experiences and attitudes to using drums for storage. Report quarterly.

7. Assess gender perspectives on the advantages and disadvantages of drums, together with gender roles in managing drum storage systems and how these vary from the management of traditional storage systems. Report annually.
8. Assist with the design and evaluation of special studies including the field evaluation of alternative drum designs, and the need for and utilization of maize shellers. Report periodically as requested by the PM.
9. Schedule Participatory Impact Assessments (PIAs) as an annual exercise, and obtain separate feedback from men and women on the Project's merits.
10. Obtain a clear understanding of women's attitudes to using drums for maize storage, and their roles in managing improved storage. Report annually.

SKILLS AND EXPERIENCE

The successful candidate will have:

1. A post-graduate degree from a recognized international university in a relevant field – rural/ community development and/ or agricultural economics.
2. At least five year's experience working in development as an M&ES; including the formulation of MEFs, design and conduct of base-line surveys, design and conduct of periodic surveys/ case studies to monitor and evaluate progress and impact, and the design and conduct of special studies.
3. Demonstrated ability to establish working relationships with national counterparts at a senior level; and to mentor and guide national M&EOs.
4. Good skills in inter-personal communication, report writing; numeracy; analysis; and networking.
5. Sound computer literacy, including use of proprietary M&E systems.
6. Fluency in English, some Tetum preferred.

Position Title: Monitoring and Evaluation Officer (M&EO) (long-term)

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the PM and advised and mentored by the M&ES, with an informal reporting line to MAF’s M&E system in its Directorate of Policy and Planning, and to the Food Security Unit in the same Directorate.

Works together with: the Project’s short-term M&ES and the Post Harvest Storage Specialist, and all levels of field staff who collect and collate basic monitoring and impact data and information.

Location: Periodic visits to target districts, sucos and aldeias; with considerable time spent in the field assisting district and suco staff with surveys and data collection exercises.

Duration: 36 months.

GENERAL DESCRIPTION

Assist the M&ES to setup and implement the Project’s M&E Framework (MEF), and to interpret and report results and outcomes. Finalizing the MEF followed by the baseline survey will be important initial tasks, followed by periodic collection of data and information on drum use (appropriate or not), maintenance issues, and if requested by MAF’s Food Security Unit, village-level information on food stores and supplies.

KEY TASKS AND RESPONSIBILITIES

The M&EO will have day-to-day responsibility for setting up and implementing the following tasks, with guidance and assistance from the M&ES:

1. Design of the Project’s MEF in line with the Logframe’s verifiable indicators.
2. Identify outputs and activities to achieve outcomes as part of the annual planning process; with corresponding progress indicators incorporated into the AWPBs and reported against in the six-monthly Progress Reports.
3. Report against the mandatory KPIs for IFAD’s Results and Impact Management System (RIMS) – six monthly.
4. Establish and maintain a simple database which records the name and location (district, suco and aldeia) of all households who receive drums.
5. Working with the short-term PHSS, establish and report (Year 1) on a baseline survey which accurately defines maize storage losses, and provides a better understanding of how traditional storage systems are managed in practice.
6. Set up systems to monitor the utilisation of drums distributed: (i) degree of use (*quantity* of grain stored in drums versus other forms of storage); (ii) consumption patterns throughout the storage period; (iii) the degree to which the recommended guidelines on drum management are being followed; and (iv) household experiences and attitudes to using drums for storage. Report quarterly
7. Assess gender perspectives on the advantages and disadvantages of drums, together with gender roles in managing drum storage systems and how these vary from the management of traditional storage systems. Report annually.
8. Assist with the design and evaluation of special studies including the field evaluation of alternative drum designs, and the need for and utilization of maize shellers. Report periodically as requested by the PM.

9. Schedule Participatory Impact Assessments (PIAs) as an annual exercise, and obtain separate feedback from men and women on the Project's merits.
10. Obtain a clear understanding of women's attitudes to using drums for maize storage, and their role in managing improved storage. Report annually.

SKILLS AND EXPERIENCE

The successful candidate will have:

1. A degree from a recognized university in a relevant field – rural/ community development and/ or agricultural economics.
2. At least three year's experience working in development as an M&ES; including the formulation of MEFs, design and conduct of base-line surveys, design and conduct of periodic surveys/ case studies to monitor and evaluate progress and impact, and the design and conduct of special studies.
3. Demonstrated ability to establish strong working relationships with counterparts and project field staff, and to guide these staff in data and information collection.
4. Good skills in inter-personal communication, report writing; numeracy; analysis; and networking.
5. Sound computer literacy.
6. Fluency in Tetum, some English preferred.

Position Title: Post Harvest Storage Specialist – short-term (4.5 months)

BACKGROUND

The Government of Timor-Leste (GoTL) has established a Project Management Unit (PMU) within the Ministry of Agriculture and Fisheries in Dili. The objective of the PMU is to implement the Timor-Leste Maize Storage Project (TLMSP) referred to as “the Project”, with due diligence within the framework of the laws, rules and regulations established under the Democratic Republic of Timor-Leste, and the rules and regulations stipulated in the Financing Agreement signed between the GoTL and the International Fund for Agricultural Development (IFAD).

BRIEF EXPLANATION OF ROLE

Responsible to: the PM

Works together with: the Project’s short-term Monitoring and Evaluation Specialist (M&ES) and the long-term Monitoring and Evaluation Officer (M&EO), and field staff who collect and collate information and data on post-harvest maize storage issues.

Location: Periodic visits to target districts, sucos and aldeias; with time spent in the field assisting district and suco staff with surveys and data collection exercises

Duration: 4.5 months, with inputs in the third year used for industry consultation, data processing and report writing.

GENERAL DESCRIPTION

The Post-Harvest Storage Specialist (PHSS) will provide support to ensure that the technical elements of the Project’s M&E and research and development into future storage options are designed, planned, and reported to a high standard. The Specialist will also provide support to ensure that all technical materials developed by the Project are appropriate and address technical problems related to post-harvest issues. It is anticipated that these responsibilities will require field work in Timor-Leste during the first and second year of the Project.

KEY TASKS AND RESPONSIBILITIES

1. Develop a methodology for the assessment of maize post-harvest losses in traditional maize storage systems in Timor-Leste. This will involve: (i) the creation of a visual scale for rapid loss assessment; (ii) a plan for the implementation of a loss survey; and (iii) a plan for the collection of ancillary data such as farmers’ maize consumption patterns, use of maize shellers, etc. Project staff (including the PFs and the M&EO) will be trained in the implementation of the plan and in storing the resulting data.
2. In association with the PMU agree on a protocol for the collection of data on drum usage indicated by: (i) the quantity of grain stored; and (ii) conformity by households to the storage advice provided by the Project.
3. Assist with the planning and testing of locally produced, hermetic storage structures, for durability and consumer acceptability. In association with local manufacturers, this will involve inputs into the selection of prototype designs to be field-tested, the planning of test protocols, and data collection and analysis.
4. Provide quality control for technical materials (leaflets, posters, stickers, etc.) prepared by the Project, to ensure that they are technically sound and suitable for the intended purposes.
5. Be available to the PMU and all field-level staff to offer technical advice on post-harvest issues, as and when these arise.
6. Analyse data and prepare periodic reports (as required by the PM) on: (i) maize losses in traditional storage; (ii) the suitability of locally produced hermetic stores; and (iii) drum usage by target farmers.

SKILLS AND EXPERIENCE

The successful candidate will have:

1. A post-graduate degree from a recognized international university in a relevant field – agricultural engineering, etc.
2. At least 10 year's experience working in development as a grain storage specialist; including the design and implementation of baseline surveys to define current grain storage practices, and the conduct of periodic surveys/ case studies to monitor and evaluate progress and impact; and the design and conduct of special studies.
3. Demonstrated ability to establish strong working relationships with counterparts and project field staff, and to guide these staff in data and information collection.
4. Good skills in inter-personal communication, report writing; numeracy; analysis; and networking.
5. Sound computer literacy.
6. Fluency in English, some Tetun preferred.

ANNEX VI: PROJECT PLANNING, MONITORING AND EVALUATION AND KNOWLEDGE

I. PROJECT PLANNING, COORDINATION AND REPORTING

A. PROJECT PLANNING

80. **Community Planning Process.** Detailed implementation planning will be driven by the community-based planning/ implementation cycle which will be adopted to promote and socialize the Project to target communities, select and then verify recipient households, distribute the drums, and provide user-training. The planning process for a new district will commence in September with selection of target sub-districts and sucos; and conclude in the following March/ April with drum distribution and training in time for the main maize harvest. Following verification of recipient households, distribution lists for each suco will be collated by the District Coordinator (DC) who, in consultation with the District Administrator (DA) will also plan district-level logistical requirements associated with the drum distribution programme, before passing the consolidated district drum distribution plan up to the Project Management Unit (PMU). The PMU will consolidate the plans received from each district (if operating in more than one district in that year) and incorporate the PMU's own resource requirements for overall management of the Project.

81. **Annual Workplans and Budgets (AWPBs).** AWPBs, prepared by the PMU with support from target district Project staff; relevant Government of Timor-Leste (GoTL) staff; and local community organizations (Suco Councils), will flow from the community-based planning process described in para 80. At the initial approval stage however the AWPBs will of necessity be “umbrella” documents based on general estimates of the number of drums which are likely to be procured and distributed. Reasons for this include: (i) the Project will be operating in a particular district for a period of only 12 months, spanning two financial years; and (ii) the precise number of recipient households and drums to be distributed will not be known until well into the drum delivery cycle in each district, following the identification and verification of beneficiary households. “Umbrella” AWPBs will be progressively updated throughout the year as the community-based planning process unfolds. The AWPB for PY1 will be prepared immediately after Project commencement. For subsequent years the AWPBs will be prepared by the PMU and submitted to IFAD and the Project Steering Committee (PSC) for comment and approval by not later than mid-December of each year.

B. COORDINATION RESPONSIBILITIES AND MECHANISMS

82. **Coordination Responsibilities.** Overall Project coordination will be the responsibility of the Project Steering Committee (PSC) which will be chaired by the Director General (DG) of the Ministry of Agriculture and Fisheries (MAF) and comprise a representative from the Ministry of Finance (MoF), and the DA from the current (or planned target district/s). The PSC will provide overall Project direction and guidance, based on the Project Design Report (PDR). The Committee will be responsible for: (i) coordinating the provision of Government support (national and district levels through MAF; and through the local government structure – suco councils); for coordinating Project activities with Government programmes; and (iii) for providing policy support where required.

83. The PMU will have specific responsibility for coordinating Project activities across the five districts, including preparation of implementation plans, M&E, procurement, organising transport logistics, and training support. It will be embedded in MAF's Dili-level National Directorate of Agriculture and Horticulture (NDA&H), specifically within the Directorate's Post Harvest Management Division (PHMD)⁷⁴. The PMU's Finance Officer (FO) and Procurement/ Logistics Officer (P/LO) will work closely with and mentor staff from MAF's Finance and Procurement Divisions within the Director General's (DG's) Directorate. The PM will report to the Director of NDA&H and on a day-to-day basis work closely with the Head of the PHMD. The PM will also liaise closely with the DG as the DG's finance and procurement staff will be required to approve Withdrawal Applications and Statements of Expenditure before these documents are signed-off by the DG.

84. At the district level, the Projects DCs and DDCs (and the PFs when they are not in the field) will work out of MAF's District Office and liaise closely with MAF's Districts Directors and other staff with responsibilities for food production and food supply monitoring. The latter will include the District Food

⁷⁴ MAF will provide office space for the PMU in the un-used laboratory. The Project will fund the renovation and office fit-out of a room in this building.

Crops Officers (FCOs), the District Food Security Officers (FSOs), and the District Post Harvest Management Officers (PHMOs). Suco Councils will be responsible for coordinating planning and distribution activities at suco and aldeia levels, assisted by the Project Facilitators (PFs).

85. **Coordination Mechanisms.** The following specific coordination mechanisms are proposed:

- (i) Annual planning workshops. The PMU will organize an Annual Planning Workshop in July/ August of each year, coinciding with the beginning of the planning cycle in new district/s. This workshop will be attended by all Project staff (PMU, DCOs, and PFs) as well as District Administration (DAs) and MAF's relevant staff from district/s where the Project will be operating in the coming year. These workshops will be an important forum for discussing proposed activities with district and MAF officials and for preparing draft district workplans.
- (ii) Quarterly planning and review workshops⁷⁵ will be held at the start of each quarter, involving all Project staff (PMU, DCOs, and PFs) as well as District Administration and MAF staff from districts where the Project is currently working. These meetings, to be held either in Dili or in one of the districts, will review progress against the current AWPB and finalise targets and strategies for the next quarter.
- (iii) Quarterly coordination meetings for cooperating development partners and other interested organizations (e.g. potential local drum manufactures) at the PMU (Dili) level, and in the target districts. Key development partners are likely to be the Seeds of Life Programme (AusAID/ ACIAR-funded) and the Rural Development Programmes (EC-funded). These meetings will be attended by the staff listed in (i) and (ii) above.
- (iv) Monthly coordination meetings will be routinely held at national and district levels on the first working day of each month to review progress and outline key activities for the coming month. These meetings will mainly be internal PMU and DC/ DDC/ PF meetings, with outside participants invited on an as-required basis.
- (v) The DAs (and their staff) and MAF's staff from districts where the Project is currently working will be encouraged to attend all major planning and review meetings organised by the PMU/ DCOs. The DCs will be required to coordinate closely with the DAs; and with MAF's District Directors (DDs), Food Crops Officers (FCOs) and Food Security Officers (FSOs) on a routine basis (the DCs will work out of MAF's district offices).
- (vi) A Project Newsletter will be published by the PMU on a six-monthly basis, providing a channel for Project staff to share knowledge, experiences and innovative initiatives/successes. Staff and beneficiaries at all levels will be encouraged to contribute to the newsletter.
- (vii) The PMU and DCOs will be equipped with computers, have internet access and will be expected to work out of MAF's district offices. Use of email for progress reporting will be encouraged. All staff, including the PFs, will be provided with mobile phones.

c. REPORTING REQUIREMENTS

86. The main reporting requirements will include:

- (i) The PFs will submit brief Monthly Progress Reports (MPRs) to the DC who will then provide consolidated MPRs to the PMU.
- (ii) The DCs will be responsible for preparing more detailed and analytical Quarterly Progress Reports (QPRs) for submission to the PMU at the end of each quarter.
- (iii) The PMU will be responsible for preparing six-monthly Progress Reports, based on the QPRs, for submission to the PSC, and then to IFAD, within one month of the end of each reporting period.

⁷⁵ The frequency of these meetings could be relaxed to half-yearly after the first 18 months, at the discretion of the PMU.

87. In addition to the above routine operational reporting, results from M&E activities will be reported in line with the guidelines provided in Section II below.

V. MONITORING AND EVALUATION

88. M&E processes are designed to be central to the evolution and responsiveness of TLMSP. A range of approaches will be developed to ensure (i) accountability to key implementation partners (“to prove”); and (ii) continuous learning and improvement as an integral part of Project implementation (“to improve”). Key elements of the Monitoring and Evaluation Framework (MEF) are outlined below.

a. KEY PERFORMANCE INDICATORS

89. M&E will be in line with the Project Logframe’s verifiable indicators as presented in Key File Table 1. The Logframe has been specified down to outcome/ development objective level only. Outputs and activities designed to achieve these outcomes will be identified as a routine part of the annual planning process; with corresponding progress indicators incorporated into the AWPBs and reported against in the six-monthly Progress Reports. In specifying the higher-level KPIs, a major objective has been to identify a limited set of relatively easily assessable indicators which can act as a general proxy for overall Project performance. The KPIs will include the mandatory indicators for IFAD’s Results and Impact Management System (RIMS), designed to measure IFAD’s contribution towards meeting Millennium Development Goal No. 1.

b. IMPACT ASSESSMENT AT GOAL AND DEVELOPMENT OBJECTIVE LEVELS

90. **Baseline Assessment of Losses.** There are currently no reliable data available on the extent of storage losses for maize under traditional storage systems in Timor-Leste. The Project will establish and report, during PY1, on a baseline which more accurately defines these losses, and provides a deeper understanding of how traditional storage systems are being managed in practice.

91. **Monitoring Drum Use.** The Project will monitor, for a sample of households and on an annual basis, the utilisation of drums distributed by the Project. This exercise will encompass: (i) degree of use (*quantity* of grain stored in drums versus other forms of storage); (ii) consumption patterns throughout the storage period; (iii) the degree to which the recommended guidelines on drum management are being followed (as a surrogate measure for *quality* of grain stored); and (iv) households’ experiences and attitudes to using drums for storage. Gender perspectives on the advantages and disadvantages of drums will be assessed, together with gender roles in managing drum storage systems and how these vary from the management of traditional storage systems. These assessments will be designed to allow direct comparison with the baseline established in PY1, and hence provide the basis for measuring the impact of the Project on maize storage losses and therefore food security. Results will be reported annually.

92. **Special Studies.** The Project will be involved in a number of R&D activities that will require careful evaluation as they are being implemented. These will include the field evaluation of alternative drum designs which may be suitable for local manufacture; and the need for and utilization of maize shellers. Results from these special studies will be reported separately as they are completed.

c. PARTICIPATORY IMPACT ASSESSMENT

93. Participatory Impact Assessments (PIAs) will be scheduled as an annual exercise. These will be conducted in a small sample of aldeia to gain feedback on Project performance in terms of planning, implementation methodology, poverty targeting, beneficiary participation, and suitability of interventions; and overall impact on food security, poverty, income diversification, women, and the environment. These assessments will be conducted by a short-term national Monitoring and Evaluation Specialist (M&ES) with results reported annually. The PIAs will provide a particularly important mechanism for obtaining separate feedback from men and women on the Project’s merits. Obtaining a clear understanding of women’s attitudes to using drums for maize storage, and their role in managing improved storage, will be crucial to defining future roll-out of the Project.

d. ACTIVITY MONITORING

94. Most of the information required for routine activity (input/ output) monitoring will be readily available from Project implementation records, including district implementation plans, AWPBs, Suco

Council household selection and distribution lists, financial statements, and procurement/ distribution records. Input indicators will generally be based on the annual budget, with output indicators based on the outputs defined in the AWPB. Progress against these indicators will form a substantive part of the six-monthly Progress Reports.

95. As part of the six-monthly reporting process, the PMU will also be required to monitor and provide a brief analysis of major risks confronting the Project. Key risks defined in the Logframe provide the starting point for this exercise, as does the Risk Matrix in the Project Design Report (Table 2).

e. MANAGEMENT PERFORMANCE

96. The monitoring of management performance will focus on learning and improvements to the implementation approach, and management systems. These aspects will be assessed on an on-going basis and reported in the six-monthly Progress Reports. Internally, the PM will be responsible for assessing the quality of management performance, with assistance from MAF's Director of the Agriculture and Horticulture Directorate, and the Head of MAF's Post Harvest and Management Unit (within the Directorate). These assessments will be supplemented by external review through Supervision Missions.

f. DRUM DISTRIBUTION DATABASE

97. A simple database will be established recording the name and location (district, suco and aldeia) of all households which receive drums under the Project. This database, maintained by the Monitoring and Evaluation Officer (M&EO) based in the PMU, will underpin all field monitoring activities.

g. M&E RESOURCES AND RESPONSIBILITIES

98. M&E activities will be managed by the PMU in Dili. The PM will have overall responsibility for finalising the Monitoring and Evaluation Framework (MEF) and over-sighting all M&E activities. Final design and development of the MEF and associated training will be supported under the Early Implementation Support Grant.

99. Key M&E resources will include:

- The full-time national M&EO in the PMU. The M&EO will be responsible for day-to-day management of the M&E programme, including managing (through the DCs) the field-level data collection activities of the PFs, as well as the compilation of the six-monthly physical and financial Progress Reports.
- The DCs and PFs, who will be mainly responsible for collecting field data under the direction of the M&EO, the Post-Harvest Storage Specialist (PHSS) and the national short-term Monitoring and Evaluation Specialist (M&ES).
- The international PHSS (two months input in PY1, 1.5 months in PY2, and one month in PY3). The PHSS will play a major role in the design of all field evaluations (including the baseline storage loss assessment, drum use monitoring programme, and field evaluations of alternative drum designs), and in the analysis and reporting of results.
- The national M&ES (one month per year) who will be responsible for implementing and reporting on the annual PIA exercise, and for supporting implementation of the drum use monitoring programme, as required.

100. The M&EO will prepare an annual M&E plan as part of the AWPB preparation, detailing the prescribed M&E activities for the year, the inputs required, outputs expected, and timing and duration. M&E activities will be scheduled as far as possible so that results can feed into the Project's Annual Planning Workshops, to be held in July/ August of each year. This will be particularly applicable to the drum use monitoring programme, and the PIA exercises.

h. PROJECT SUPERVISION AND REVIEW

101. Direct supervision by IFAD will be carried out on a bi-annual basis. Supervision Missions will be scheduled to coincide with AWPB preparation, PSC meetings, and approval by MAF of the Withdrawal Applications (WAs). The final Supervision Mission will be resourced to undertake a

Completion Review of Phase I, with particular emphasis on assessing performance against the “trigger” indicators for a possible Phase II (see para 63). This review will be undertaken well in advance of the scheduled close of Phase I so that there is sufficient time for an uninterrupted transition between Phases.

i. TRIGGER INDICATORS FOR PHASE II

102. The “trigger” indicators which should be applied in assessing whether a Phase II is justified include the following, all of which will be directly assessable within the scope of the MEF as outlined above.

- The targeting mechanisms used for Phase I (designed to ensure that the distribution of subsidized drums is tightly targeted towards poorer households, and are gender neutral) are working effectively.
- The anticipated reduction in maize storage losses, and resulting financial benefits at household level, are being realized.
- Design/s for locally-manufactured drums which are technically, financially and socially acceptable have been developed, and fully field-tested.
- Financially viable option/s for local drum manufacture have been developed and costed, with clear identification of sustainable business partner/s.

VI. KNOWLEDGE MANAGEMENT

103. Core elements of Knowledge Management (KM) include: (i) ensuring full engagement with target communities; (ii) establishing a MEF which is able to provide information and analysis for management decision-making on progress achieved against the Logframe and AWPBs; and (iii) ensuring knowledge/ results generated are shared with all key stakeholders. Aspects of KM relating to development of the Project’s M&E system have been outlined in Section II. Other measures which will be supported to ensure adequate engagement with target communities and other stakeholders are summarised below:

- The Project will be actively promoted and socialised within target communities to ensure that all households are aware of what is on offer and the eligibility criteria which will apply. Promotion and socialisation will take place through the Suco Council structure, as well as directly through the PFs, employing a range of promotional methods and materials.
- In order to promote transparency, lists of households selected to receive drums will be publicly notified prior to verification, and community representatives will be directly involved in the verification process.
- Communities will be directly involved in the evaluation of Project performance through PIAs, results of which are designed to feed into the Project’s Annual Planning process.
- Technical information on how to use drums for storage will be made widely available in target communities.
- The Project’s Planning and Review Workshops, which will involve Project staff from all levels as well as GoTL district administration and MAF staff, will be used to distil key lessons-learned relating to both management and technical performance. There are two general areas of knowledge which are of particular interest: (i) the effectiveness of the Project’s targeting and delivery mechanisms; and (ii) the suitability, effectiveness and impact of drums for on-farm maize storage.
- R&D activities (e.g. development and field-testing of alternative maize storage designs, evaluation of maize shellers, and development of business feasibility studies related to establishing local drum manufacturing capacity) will be formally shared and discussed with key stakeholders at critical stages of each activity, from activity design through to formal reporting of final results.
- The Project will sponsor an annual “lessons learned” workshop involving relevant government agencies (e.g. the Ministry of Agriculture and Fisheries [MAF] and the Ministry of Tourism, Commerce and Industry [MTCI]); and donors working in the agricultural sector, particularly those with a direct interest in food security (FAO, World Food Programme [WFP] and AusAID); and NGOs.
- The PM will maintain close informal links with relevant programmes and projects, such as SoL III, to ensure adequate information-sharing as the foundation for developing

operational links and complementary outcomes. The planned quarterly and monthly coordination meetings for cooperating partners and all local MAF staff who are interested in TLMSP will enable knowledge to be shared widely throughout these networks.

- There is an opportunity for the Project to feed into GoTL's draft National Policy on On-Farm Storage of Maize and Paddy which is currently being developed. The PM will work actively with the committee guiding the development of this policy to ensure that the necessary links are made.
- The Food Security Unit within MAF's Directorate of Policy and Planning will be regularly briefed on Project activities, particularly on the results from the storage loss assessment studies, the drum monitoring programme, and the PIAs. Once the drum distribution database and drum monitoring programme are established, the Project will actively promote the potential for these activities to complement MAF's food security monitoring system, providing a simple system which could be utilized by MAF to quickly assess volumes of grain available in communities at critical times of the year. If relevant, Project-generated information and data on Timor-Leste's food security situation will also be forwarded to the National Food Security Committee.
- A Project Newsletter will be published by the PMU every six months, providing a mechanism for knowledge, experiences and innovative initiatives/ successes to be shared between stakeholders.
- To facilitate the sharing of experiences across projects, provision has been made for TLMSP staff to visit other projects and sites of interest within Timor-Leste and possibly Eastern Indonesia, where innovative approaches to improving on-farm grain storage are being tried.
- The Project will share key results with IFAD at regional levels through the IFAD Asia Website

ANNEX VII: FINANCIAL MANAGEMENT AND DISBURSEMENT ARRANGEMENTS

I. FLOW OF FUNDS AND APPROVALS

104. **Flow of Funds.** The flow of funds is diagrammatically represented in Appendix 1. A Project Designated Account (DA) will be opened by the Recipient in a commercial bank acceptable to IFAD. The Recipient will designate the person/s authorized to jointly operate the DA and to withdraw funds from the Grant Account opened by IFAD in its books upon entry into force of the Grant Agreement to be signed between IFAD and the Government of Timor-Leste (GoTL), after IFAD Executive Board Approval. All payment authorizations for Grant-eligible expenditures will be prepared by the Project Management Unit (PMU) and no withdrawal from the DA will be effected without this certification.

105. **Designated Account.** An Authorized Allocation equivalent to an average of six-months of eligible expenditure during implementation (\$750,000) will be deposited once the conditions for disbursement are met.

106. **Withdrawals from the Grant Account.** IFAD will open in its books a Grant Account upon entry into force of the Grant Agreement. Withdrawals from the Grant Account will be made on the basis of Withdrawal Applications (WAs) being prepared by the PMU and authorized by the persons designated by the Recipient to sign WAs.

107. **Disbursement Procedures and Documentation supporting the Withdrawal Applications.** Replenishments of the DA will be effected through the submission of WAs and supporting documentation and/or Statements of Expenditure (SOEs), in accordance with IFAD's procedures detailed in the Letter to the Recipient and the Disbursement Handbook. All WAs will be in line with projected expenditure as detailed in the approved Annual Work Plans and Budgets (AWPBs) and related Procurement Implementation Plan (PIP). The Recipient will be entitled to utilize four disbursement procedures during Project implementation: viz. Direct Payment, Reimbursement, Special Commitment under Letter of Credit, and Special/ Designated Account. The PMU will be responsible for the preparation and consolidation of SOEs, the reconciliation of the DA, and for filing appropriate documentation and the WAs, which will be approved by the PMU and the Ministry of Agriculture and Fisheries (MAF) prior to being submitted to IFAD for payment.

108. **Project Sub-accounts.** The District Coordination Offices (DCOs) will maintain separate District Operating Accounts, if banking services are available, with funds transferred into these accounts from the Project DA, monthly in advance or periodically at the satisfaction of IFAD. These transfers, to cover district operational expenses, will be relatively small in relation to total financing, being limited mainly to: (i) office and vehicle operating costs (but excluding salaries and allowances, which will be paid directly by the PMU); (ii) expenses related to the sub-district/ suco planning process; and (iii) the cost of transporting drums from the district down to suco level⁷⁶. All major procurement items will be managed directly by the PMU.

109. **Approvals, Acquittals and Authorisations.** The PMU will be jointly responsible with MAF for entering into contracts and handling payments on behalf of the Project⁷⁷, subject to the approval process and authorizations outlined below. All transfers from IFAD to the Project's DA, and from the DA to the DCO Accounts must be in line with the current AWPB, and will be subject to satisfactory acquittal of previous advances. Each AWPB must be formally approved by the Project Steering Committee (PSC) prior to any expenditure being incurred against these plans and budgets; and all WAs (and accompanying SOEs) must be approved by the PMU and MAF prior to submission to IFAD.

110. Payments from the DA will be certified by the Project Manager (PM) and the Finance Officer (FO). Payments from the DCO Account will be co-signed by the District Coordinator (DC) and the Deputy District Coordinator (DDC) for individual payments of less than \$1,500; and by the DCO and the FO for payments of \$1,500 or more.

⁷⁶ Note that by the time the Project commences Timor-Leste is likely to have a 3G wireless network operating in all districts, so it should be possible to transfer money between the PMU's DA and District Operating Accounts, electronically.

⁷⁷ And DCOs to the limit of their delegated authority, under direct supervision of the PMU.

111. Project Supervision will be carried out by IFAD on a bi-annual basis. Supervision Missions will be scheduled as far as possible to coincide with AWPB finalisation, PSC meetings and approval of WAs by the PMU and MAF.

112. **Disbursement Schedule.** The proceeds from the IFAD's Grant will be disbursed over three years with an indicative Grant closing date of 30 June 2015. An indicative disbursement schedule by semester is provided in Working Paper 7, Appendix 2, Table 9.

VII. GOVERNMENT AND BENEFICIARY CONTRIBUTIONS

113. **Government Contribution.** The Government of Timor-Leste (GoTL) will be making a financial contribution to the Project in the form of sales taxes and import duties foregone on imported drums, equipment and materials. This will be reflected in the terms of the Grant Agreement to be established between IFAD and the Recipient, by providing the Project with official tax-exempt status. IFAD Grant funds will not be used to defray taxes and duties for goods and consultant services financed by Grant funds.

114. **Beneficiary Contributions.** Beneficiaries will be required to make a contribution of \$10 per 200L drum⁷⁸ for all drums allocated under the Project. These payments will be collected in cash by the Project Facilitators (PFs) when drums are delivered to the suco, deposited into the DCO Operating Account held at District-level (or held as cash) and then transferred into the Project's DA. Contributions will be used, together with interest on deposits in the DA, to purchase additional drums or for other expenses as agreed with IFAD. These funds, not sourced from the Grant Account, will not be mixed with the Authorized Allocation in the DA, and accounted for separately in the DA reconciliation statements.

VIII. RETRO-ACTIVE FINANCING AND CONDITIONS FOR DISBURSEMENT

115. **Retro-Active Financing.** Provision will be made for retro-active financing of up to \$30,000 to cover initial expenditures incurred by GoTL between approval of the Grant, and Grant Eligibility for disbursement. Eligible activities will include establishment/ refurbishment of the PMU in Dili and the recruitment of the Project Manager (PM), the Finance Officer (FO) and the Procurement/ Logistics Officer (P/LO) who will work out of the PMU. All expenditure for which retro-active financing will be applied must be in line with the overall design, and procurement must be in line with specified procurement procedures (see Annex 8). Retroactive financing will be subject to approval by IFAD's Executive Board.

116. **Conditions for Disbursement from the Grant Account.** The amount pre-financed by GoTL for start-up activities will be reimbursed by IFAD once the conditions for disbursement are met namely:

- i) the constitution of the PMU with core staff appointed at the satisfaction of IFAD;
- ii) the submission to the satisfaction of IFAD of the first AWPB and related 18 month Procurement Implementation Plan; and
- iii) the presentation of a Tax Exempt Certificate for the goods, services and consultant services to be financed by the Grant under the Project.

IX. ACCOUNTS AND AUDIT

117. A full set of accounts will be maintained by the Recipient, covering both PMU and DCO expenditures, in accordance with IFAD's requirements and internationally acceptable accounting standards.

118. PMU staffing will include a qualified FO who will manage the accounting requirements of the Project. As well as managing the overall accounting system, the FO will also be responsible for ensuring that all Project personnel maintain the required records (with receipts) of field-level expenditures. This will require the maintenance of a simple set of accounts at the district level so that

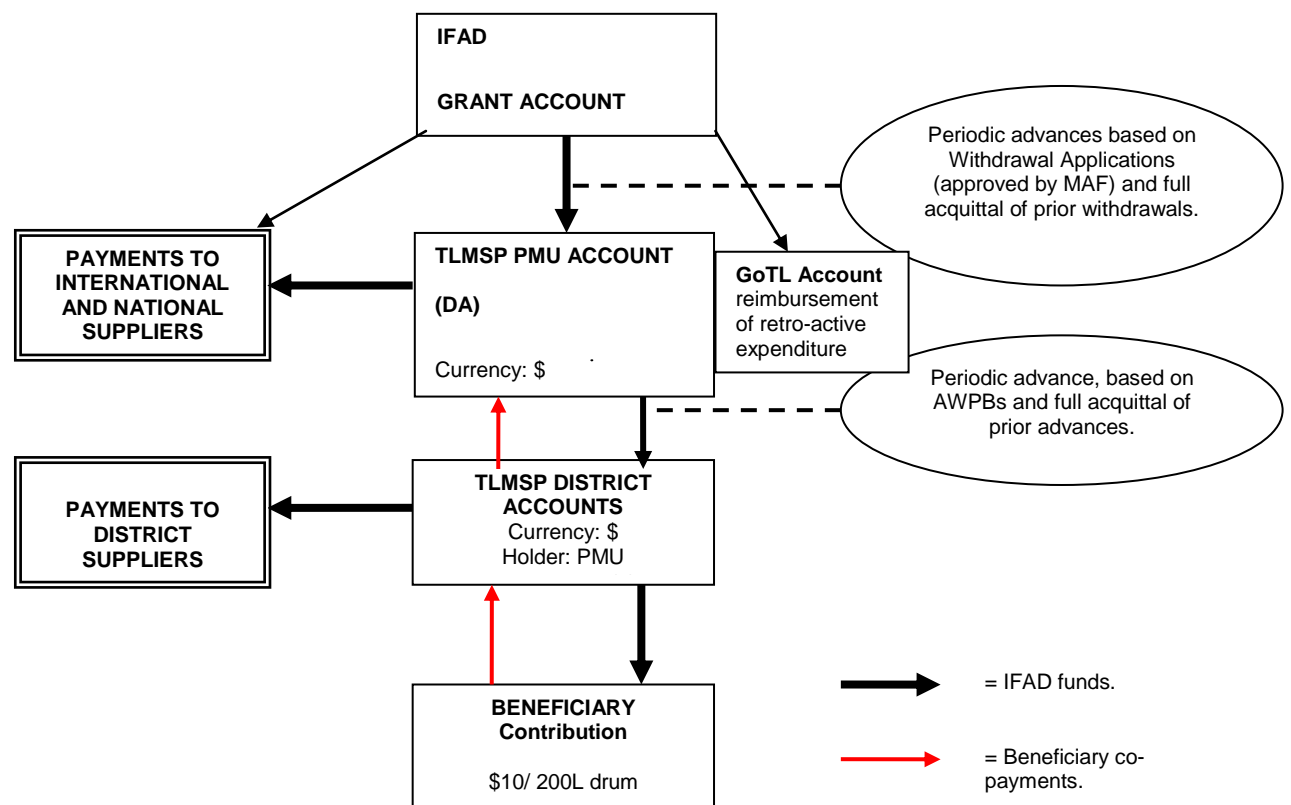
⁷⁸ Or a proportional amount for drums of other sizes.

the District Coordinators, Deputy District Coordinators and Project Facilitators can account for their operational expenditures.

119. An independent External Auditor with TORs acceptable to IFAD will be selected by the Recipient (see Annex 5, Section II) through national competitive bidding (open to foreign auditors) within six months of Project start-up, for “no objection” by IFAD. The Auditor will be contracted to undertake an annual audit of the Project’s accounts on the basis of financial statements prepared at latest two months after the end of the fiscal year. The audit will review withdrawals from the DA at various levels on the basis of furnished SoEs, and related documentation, review the procurement processes, analyse internal controls, and provide an opinion on whether such expenditures fully comply with expenditures eligible for IFAD disbursements in line with IFAD’s 2003 Projects Audit Guidelines (Opinion on the financial statements plus opinion on the use of the DA and on the documentation kept in the PMU to support the SOEs).

120. The Certified Audit Report and the Management Letter will be submitted to IFAD through MAF no later than six months after the end of each financial year.

Appendix 1: TLMSP Flow of Funds Chart



Appendix 2: Project Financing by Financiers and Categories of Expenditures

	(US\$ '000)		The Government		IFAD Grant		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs										
A. Drum Procurement*	98.1	5.0	1,381.6	70.4	482.4	24.6	1,962.1	35.1		
B. Subcontracts	15.0	2.3	644.3	97.7	-	-	659.3	11.8		
C. Vehicles, Equipment & Materials	29.5	4.8	580.4	95.2	-	-	609.9	10.9		
D. Training	0.5	0.3	160.4	99.7	-	-	160.9	2.9		
E. Technical Assistance and Studies										
Technical Assistance	0.0	-	229.8	100.0	-	-	229.8	4.1		
Studies	-	-	417.3	100.0	-	-	417.3	7.5		
Subtotal Technical Assistance and Studies	0.0	-	647.0	100.0	-	-	647.0	11.6		
Total Investment Costs	143.1	3.5	3,413.8	84.5	482.4	11.9	4,039.3	72.4		
II. Recurrent Costs										
A. Salaries and Allowances and Operating Costs										
Salaries and Allowances	12.1	1.1	1,095.3	98.9	-	-	1,107.4	19.8		
Operating Costs	0.0	-	435.5	100.0	-	-	435.5	7.8		
Total Recurrent Costs	12.1	0.8	1,530.9	99.2	-	-	1,542.9	27.6		
Total PROJECT COSTS	155.2	2.8	4,944.7	88.6	482.4	8.6	5,582.2	100.0		

- Beneficiaries' contribution is not a part of the payment made by the Project to purchase drums

ANNEX VIII: PROCUREMENT

I. PROCUREMENT GUIDELINES

121. **Introduction.** IFAD's revised "Project Procurement Guidelines" approved in September 2010 emphasize the possibility of using the borrower/ recipient's procurement regulations, to the extent that such regulations are consistent with IFAD's Guidelines. However as IFAD has not undertaken a COSOP process in Timor-Leste, consideration was given to how procurement regulations have been applied by organizations such as the Asian Development Bank and the World Bank in relation to their financing of development in Timor-Leste. Both institutions ensure that their Guidelines are used in Timor-Leste.

122. Following discussions held in Timor-Leste with the World Bank's representative a copy of the Bank's Timor-Leste Country Procurement Assessment was handed over to IFAD. From the results of this assessment it is clear that Bank Procurement Guidelines will be applied to the financing of goods, works and consulting services financed by the Bank. IFAD has therefore taken a similar approach. Consequently IFAD's Guidelines dated September 2010 and its Procurement Handbook will apply for the financing of the Timor-Leste Maize Storage Project (TLMSP).

123. It is relevant that the World Bank has recently granted Technical Assistance to Timor-Leste to strengthen the capacities of the National Procurement Directorate and other procuring entities in the implementation of the public procurement system. The Grant from the Bank aims to consolidate into one Procurement Law the existing nine procurement decrees and regulations, and create a public procurement system in line with international best practices (through a programme of capacity building, and monitoring indicators and tools).

124. The revised IFAD Procurement Guidelines focus less on the details of procurement methods and more on the general principles, standards and policies which borrowers/ recipients must adhere to when implementing IFAD-financed projects. An IFAD Project Procurement Handbook will be sent to the Recipient upon Grant signing to assist the Project Management Unit (PMU) with the procurement processes and forms. As a practice under IFAD projects, in case of need, the PMU can use the World Bank's sample Standard Bidding Documents.

125. The list of Procurement methods to be followed under the Project can be selected from the list in Appendix 2 and will be reflected in the 18 month Procurement Implementation Plan. This plan will be prepared by the PMU to be established in the Ministry of Agriculture and Fisheries (MAF). A provisional 18 month Procurement Implementation Plan with the procurement and IFAD prior approval thresholds is detailed in Appendix 1.

126. **Procurement PMU staffing.** Procurement management will be exercised by the PMU which will be staffed with a Project Manager (PM), an experienced Procurement/ Logistics Officer (P/LO) and a Finance Officer (FO). Terms of Reference for these positions are detailed in Annex 5. MAF will appoint these staff on a competitive basis, to the satisfaction of IFAD. The P/LO and the FO (the latter for the financial aspects of contracts management under the direction of the PM) will be responsible for managing the procurement process. The Recipient, through the Bid Evaluation Committee, will have the opportunity to participate in major procurement decisions. During Project start-up, a financial management and procurement expert will be mobilised by IFAD to provide on-the-job training for PMU staff, and to assist with finalisation of the 18-month procurement plan.

127. **18 month Procurement Plan.** Before commencing implementation and annually thereafter, the Recipient will provide a Procurement Plan to IFAD for approval as described in IFAD's Procurement Guidelines. IFAD will provide a template for a Procurement Plan, which will specify the method of procurement (see Appendix 2 for details on the methods) for each contract to be financed, including thresholds, ceilings and preferences. The Procurement Plan will also specify any additional requirements as set out in IFAD's Procurement Guidelines with respect to certain methods of procurement. A draft Procurement Plan for the first 18 months of the Project is presented in Appendix 1. This will be revised and further detailed at the start of the Project by the PMU and submitted to IFAD for a "no objection".

128. Procurement will be exclusively undertaken only during the Project implementation period (from entry into force plus three years) except for: (i) retroactive financing starting from the date of approval of the Project by IFAD's Executive Board; and (ii) for winding up expenditures after Project completion date and before the Grant closing date. No procurement will be undertaken if it entails a payment to

persons or entities, or an import of goods prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations.

129. **Procurement Decisions.** A Bid Evaluation Committee will be established by the PMU for the evaluation of bids related to procurement of goods and services with a contract value of more than \$50,000. This Committee will involve the PM, the FO, the P/LO and senior finance and procurement staff from MAF with designated responsibilities for the Project. Independent technical specialists may be invited to participate in bid evaluations on an as-required basis.

130. The award of any contract for goods and services for goods costing \$100,000 or more per contract will be subject to prior “no objection” from IFAD. The Terms of Reference and award of contracts for consulting services or core studies will be subject to IFAD Prior Review.

131. **Procurement Methods and Thresholds.** Procurement will be undertaken using four general methods:

- For vehicles, equipment and materials costing \$100,000 or more per expenditure: International Shopping (IS);
- For vehicles, equipment and materials costing \$25,000 up to less than \$100,000 per expenditure: National Competitive Bidding (NCB) or Local Shopping (LS), depending on availability;
- For vehicles, equipment and materials costing less than \$25,000 per expenditure: LS;
- For consulting services, Technical Assistance (TA), training services, studies, and other implementation support services: Quality and Cost-Based Selection (CBS)/ Cost-Based Selection (CBS), Direct Contracting (DC), with selection based on quality, cost and experience considerations; or selection under Fixed Budget.

132. Note that these methods and thresholds are indicative and subject to adjustment by IFAD. Other procurement methods such as those listed in Appendix 2 may be permitted where justified and acceptable to IFAD.

133. To the extent possible, procurement contracts will be bulked into sizeable bid packages by the PMU in order to permit the optimal use of competitive bidding (i.e. IS or NCB). Procurement of drums and vehicles will generally require the use of international procedures. Procurement of miscellaneous equipment, materials, and operating supplies will generally be much lower cost and fall under NCB, LS or DC procedures.

134. For procurement of consulting services and studies, terms of reference, conditions and terms of contracts, and the qualifications and experience of consultants, will be subject to prior review and approval of IFAD, if requested by IFAD. Before agreeing to any material modification or waiver of the terms and conditions of any contract, granting an extension of the stipulated time for performance of such a contract, or issuing any change order (except in cases of extreme urgency) which would increase the cost of the contract by more than 10% of the original price, MAF will seek IFAD's approval of the proposed modification.

135. **Audit Provisions.** All bidding documents and contracts for the procurement of goods and consulting services financed by the Project will include a provision requiring bidders, suppliers, contractors, subcontractors and consultants to permit IFAD to inspect their accounts, records and other documents relating to the bid submission and contract performance, and to have them audited by Fund-appointed auditors and investigators. This provision will require bidders, suppliers, contractors, sub-contractors and consultants to: (i) maintain all documents and records related to activities performed for three years after completion of the contract; and (ii) require the delivery of any document necessary for the investigation of allegations of fraud or corruption (and the availability of employees or agents of the bidders, suppliers, contractors, sub-contractors or consultants with knowledge of the activities financed by IFAD) to respond to questions from IFAD's personnel or any properly designated Auditor, investigator, agent or consultant relating to review or audit of the document. If the bidder, supplier, contractor, subcontractor or consultant fails to comply with IFAD's request, or otherwise obstructs IFAD's review of the matter, IFAD, at its sole discretion, may take appropriate action against the bidder, supplier, sub-contractor or consultant, including the imposition of sanctions in accordance with the administrative procedures of the Fund.

136. **Procurement Documentation.** Disbursements for drums, vehicles, machinery, and equipment and consultant services will be fully documented. Disbursements for expenditures equal to or less than

\$20,000⁷⁹ per contract for training, workshops, local salaries and allowances, materials, office supplies and other operating expenses will be made against certified Statements of Expenditure (SOEs).

137. Supporting documents, including suppliers' invoices, evidence of payment, analysis of bids, contracts, payment vouchers and receipts, will be retained in an organised manner by the PMU for inspection during Supervision Missions, and examination by auditors. This will also apply to documentation kept at the district level where the place of location will be determined by the PMU.

138. Proposed financial management and disbursement arrangements are detailed in Annex 7. Funds will flow directly from IFAD to a Project Account (Designated Account) managed by the PMU through MAF. The Ministry of Finance (MoF) will not be directly involved in the proposed flow-of-funds arrangements, but will have an oversight role through the ministry's participation in the Project Steering Committee on request, and participation in routine performance monitoring exercises.

139. IFAD will provide MAF with implementation support prior to startup in the form of a small fund to assist with the contracting process in order to ensure timely selection of PMU core staff. This will be considered as retro-active financing and will be reimbursed by IFAD to GoTL – see Annex 7.

⁷⁹ Subject to adjustment as may be acceptable to IFAD.

Appendix 1: Draft 18 - Month Procurement Implementation Plan

A. Retroactive Expenditures:

Ref No.	Procurement category	Component	Description of Procurement (Contract package)	Estimated Cost (US\$ '000)	Procurement Method	Review by IFAD (prior/post)
	1. Goods					
	2.1 PMU equipment	C3	A/C units (3)	1.1	Local shopping	Post
		C3	Backup generator (17 KVA)	9.5	Local shopping	Post
		C3	Office refurbishment	10.0	Local shopping	Post
		C3	Misc. office equipment	3.5	Local shopping	Post
		C3	Misc. office furniture/ fixtures allowance	2.5	Local shopping	Post
	Subtotal Goods:			26.6		
	2. Recurrent Costs					
	2.1 PMU Staff Recruitment	C3	Project Manager	advance contracting	CQBS: International basis	Prior
		C3	Financial Officer	advance contracting	CQBS: National basis	Prior
		C3	Procurement/ Logistics Officer	advance contracting	CQBS: National basis	Prior
		C3	M&E Officer	advance contracting	CQBS: National basis	Prior
		C3	Secretary/ Office Assistant	advance contracting	CQBS: National basis	Post
		C3	Translator	advance contracting	CQBS: National basis	Post
		C3	Driver	advance contracting	CQBS: National basis	Post
		C3	Security (x2)	advance contracting	CQBS: National basis	Post
		C3	Cleaner	advance contracting	CQBS: National basis	Post
		C3	Misc. expenditures (advertising bids,	3.4	N/A	N/A

			communication, bid evaluation expenses)			
	Subtotal recurrent costs:			3.4		
	TOTAL "Retroactive Expenditures":			30.0		

B. Rest of Year 1 Expenditures:

Ref No.	Procurement category	Component	Description of Procurement (Contract package)	Estimated Cost (US\$ '000)	Procurement Method	Review by IFAD (prior/post)
	1. Goods	C1	Import of new drums (8,190)	327.6	International shopping	Prior
		C1	Fencing for Dili holding yard	6.5	Local shopping	Post
		C1	Maize shellers	11.0	Local shopping	Post
		C2	Materials for distribution planning meetings	3.6	Local shopping	Post
		C2	Fencing of district-level holding yards	3.2	Local shopping	Post
		C2	Production of promotional and training materials	15.1	Local shopping	Post
		C2	Equipment for project facilitator (non-motorbikes)	3.9	Local shopping	Post
		C3	6-monthly newsletters	2.5	Local shopping	Post
		C3	4WD cars for PMU and DCO (3)	150.0	International shopping	Prior
		C2/C3	Motorbikes for PMU, DCO, and PF (12)	26.9	NCB	Post
		C3	Computer equipment and software for PMU/DCO	20.3	Local shopping	Post
		C3	Communications (internet and telephones) for PMU/DCO	9.2	Local shopping	Post
		C3	Backup generator (2.5-3.5 KVA) for DCO	0.7	Local shopping	Post
		C3	Office refurbishment: DCO	1.5	Local shopping	Post
		C3	Misc. office equipment: DCO	1.5	Local shopping	Post
		C3	Misc. office furniture/ fixtures allowance: DCO	1.5	Local shopping	Post
	Subtotal Goods:			585.0		
	2. Services for Goods	C1	Cost of Dili holding yard	18.0	Local shopping	Post

TIMOR-LESTE: TIMOR-LESTE MAIZE STORAGE PROJECT
PROJECT DESIGN REPORT: VOLUME 1 – PROJECT DESIGN REPORT AND ANNEXES

		C1	QA of cleaning process	4.5	Local shopping	Post
		C1	Security/ labour for Dili holding yard	4.3	Local shopping	Post
		C2	District-level holding yards	3.5	Local shopping	Post
		C2	Drum security guards at lower levels	6.4	Local shopping	Post
		C2	Transport cost Dili to district centres	47.5	NCB	Post
		C2	Transport cost district centres to suco	32.3	NCB	Post
		C2	Design of promotion and info materials	10.0	Local shopping	Post
	Subtotal Services for Goods:			126.5		
	3. Consultancy Services					
		C1	R&D - development and field trials of alternative drum designs	100.0	QCBS	Prior
		C3	Baseline survey	10.0	CQS	Prior
		C3	Followup M&E survey	5.0	CQS	Prior
		C3	Initial targeting study	5.0	CQS	Prior
		C3	Annual audit	10.0	CQS	Prior
		C3	Post Harvest Storage Specialist (Int'l TA)	50.0	QCBS	Prior
		C3	Monitoring and Evaluation Specialist (Int'l TA)	25.0	QCBS	Prior
		C3	Other (local TA)	7.5	CQS	Prior
	Subtotal Consultancy Services:			212.5		
	4. Training					
		C2	Farmer training sessions on drum use	5.6	CQS	Post
		C2	Project facilitator start up training	2.3	CQS	Post
		C2	District agent training	0.5	Direct contracting	Post
		C3	Startup training: PMU staff	1.3	CQS	Post
		C3	Mid-year & annual planning/review workshops: PMU	2.4	CQS	Post
		C3	Study tours to other projects: PMU	6.5	CQS	Post
		C3	Capacity building for MAF finance & procurement staff	5.0	CQS	Post
		C3	Inception workshop for all staff	25.0	CQS	Prior
		C3	National 'lessons learned' workshops	2.7	CQS	Post
		C3	Dili Development Partner coordination meetings	4.0	CQS	Post
		C3	Startup training: DCO staff	0.5	Direct contracting	Post

TIMOR-LESTE: TIMOR-LESTE MAIZE STORAGE PROJECT
PROJECT DESIGN REPORT: VOLUME 1 – PROJECT DESIGN REPORT AND ANNEXES

		C3	District coordination meetings	2.0	CQS	Post
	Subtotal Training:			57.8		
	5. Recurrent Costs					
	5.1 PMU staff salaries	C3	Project Manager	144.0	In accordance with contractual arrangements	N/A*
		C3	Financial Officer	15.0	In accordance with contractual arrangements	N/A*
		C3	Procurement/ Logistics Officer	15.0	In accordance with contractual arrangements	N/A*
		C3	M&E Officer	6.6	In accordance with contractual arrangements	N/A*
		C3	Secretary/ Office Assistant	3.6	In accordance with contractual arrangements	N/A*
		C3	Translator	4.8	In accordance with contractual arrangements	N/A*
		C3	Driver	2.4	In accordance with contractual arrangements	N/A*
		C3	Security (x2)	4.3	In accordance with contractual arrangements	N/A*
		C3	Cleaner	2.2	In accordance with contractual arrangements	N/A*
	5.2 Other recurrent costs	C3	PMU field travel allowances	14.2	In accordance with contractual arrangements	N/A
		C2	Project facilitator salaries and allowances	45.9	In accordance with contractual arrangements	N/A
		C2	Project facilitator operation costs	14.0	In accordance with contractual arrangements	N/A
		C3	Staff salaries and allowances: DCO	21.2	In accordance with contractual arrangements	N/A
		C3	Operating costs: PMU	62.0	In accordance with contractual arrangements	N/A
		C3	Operating costs: DCO	34.6	In accordance with contractual arrangements	N/A
	Subtotal Recurrent Costs:			389.8		

*Per terms of contract awarded

Note: The retroactive procurement implementation period, assumed to be 6 months, could be reduced depending on the date of signing the Financing Agreement and its Entry into Force (e.g. due to early preparation by MAF of the Standard bidding Document).

Appendix 2: Procurement Methods

I. Procurement of Goods and Works

Method	Description	Applicability/Characteristics	Advertising	Remarks
International Competitive Bidding (ICB)	Procedure for procurement of goods and works on the international market with open competition	<ul style="list-style-type: none"> High value procurement Interest for international business community Equal opportunity to bid 	General Procurement Notices (GPN) Open ITB or invitation to pre-qualify UNDB/dgMarket International press	- Margin of preference for domestic goods and works may be applied
Limited International Bidding (LIB)	ICB by direct invitation (no open advertisement)	<ul style="list-style-type: none"> Smaller value Limited number of suppliers 	Restricted ITB	- Domestic preference not applicable
National Competitive Bidding (NCB)	Procedure for public procurement in Borrower Country	<ul style="list-style-type: none"> Small value contracts Geographically scattered, labor-intensive or time-spread works Local prices below international market No or limited interest from international business community ICB advantages outweighed by financial and administrative costs 	Local press Internet Open ITB	<ul style="list-style-type: none"> IFAD to establish acceptability of national procedures Foreign suppliers allowed to bid
International Shopping	Comparison of price quotations from at least 3 suppliers in 2 different countries	<ul style="list-style-type: none"> Small value procurement Off-the-shelf goods, standard specification commodities, simple civil works 	Request for quotation (restricted)	- Purchase order or brief contract
National Shopping	Comparison of price quotations from at least 3 suppliers	<ul style="list-style-type: none"> Same as International Shopping Goods available locally from several sources at competitive prices 	Request for quotation (restricted)	- Purchase order or brief contract
Direct Contracting	Single or sole-source selection	<ul style="list-style-type: none"> Extension of existing contract Standardization for vehicles, equipment Proprietary equipment obtainable from one source only Condition of performance guarantee Emergency procurement 	No advertising No competition	
Procurement from Commodity Markets	Procurement of goods from commodity markets	<ul style="list-style-type: none"> Grains, animal feed, cooking oil, fuel, fertilizers, pesticides, metals Multiple award for partial quantities to secure supply and prices 	Pre-qualified bidders Issuance of periodic invitations	Short bid validity Single (market) currency for bid and payment
Work by Force Account	Use of the Borrower's own personnel and equipment to perform construction work	<ul style="list-style-type: none"> Difficulty in defining work quantities Small, scattered works in remote locations Risk of unavoidable work interruptions No disruption of on-going operations Emergency situations 	No advertising No competition	IFAD ensure that <ul style="list-style-type: none"> force account units are properly staffed, equipped and organized costs are reasonable
Procurement from UN Agencies	Procurement of specific goods from specialized UN agencies	Small quantities of off-the-shelf products	No advertising No competition	<ul style="list-style-type: none"> Use of UN agency rules and procedures Indication in loan agreement

Refer to the IFAD Procurement Guidelines for the following procurement methods:

- Procurement by agents and use of inspection agents
- Procurement by financial intermediaries or sub-loan beneficiaries
- Procurement with community participation

II. Procurement of Consulting Services

Method	Description	Applicability/characteristics	Advertising	Remarks
Quality and Cost Based Selection	Competitive selection from short-listed firms based on quality and cost of proposal	Two-step evaluation: quality (technical proposal) and cost (financial proposal)	GPN (large contracts) Request for Proposal (RFP)	Preferred selection method for most consulting services
Selection Under a Fixed Budget	Competitive selection from short-listed firms based on best technical proposal within budget	<ul style="list-style-type: none"> Simple and precisely defined assignment Consulting firms requested to bid within a fixed budget 	Request for proposal	Rejection of proposals above fixed budget
Quality Based Selection	Competitive selection from short-listed firms based on quality only	<ul style="list-style-type: none"> Complex/highly specialized assignments High downstream impact No comparability of proposals 	GPN (large contracts) Request for Proposal	Only technical proposals may be invited
Selection Based on Consultants' Qualifications	Selection from short-listed firms based on consultant's experience and competence	<ul style="list-style-type: none"> Very small assignments Cost of RFP preparation and evaluation not justified 	Request for expression of interest	Submission of combined technical-financial proposals
Single Source Selection	Selection of a firm without any competition	Must be exceptional: <ul style="list-style-type: none"> Continuation of previous work Emergency situation Very small assignments Only one firm is qualified/experienced 	No competition	Clear advantage over competition or impossibility to compete must be demonstrated
Selection of Individual Consultants	Individuals selected based on qualifications, references and other relevant criteria, with limited or no competition	<ul style="list-style-type: none"> Teams of personnel not required No additional professional support required Main requirement is experience and qualification of individual consultant 	Request for expression of interest or Direct contact	Individuals may be selected on a single source basis

Refer to the IFAD Procurement Guidelines for the following procurement methods:

- Procurement agents and inspection agents
- UN agencies, Civil Society Organizations, Auditors and Service Delivery Contractors

ANNEX IX: PROJECT COSTING AND FINANCING

I. PROJECT COST BY COMPONENT

140. Project costs by component are summarised in Table 1. The total cost over three years is estimated to be \$5.582 million including physical and price contingencies (which amount to 7% and 5% of base costs, respectively). The foreign exchange element is estimated to be \$2.90 million or 59% of base costs (excluding contingencies), reflecting the high proportion of funds which will be used to import 200L maize storage drums.

141. About 64% of the total base cost will be utilised to purchase and distribute drums to farmers, and to provide related support services, such as training. Within this total, Component 1 (Drum Procurement/ Manufacture) accounts for about 43% of base costs; and Component 2 (Drum Distribution) for 21%. Component 3 (Project Management, including Technical Assistance costs) accounts for the remaining 36% of base costs. Reasons why management costs are slightly higher than normal relate to the need for a progressive build-up of productive activities (Component 1 and Component 2) combined with the relatively short Project duration of just three years. If the Project extends into a second Phase, as anticipated, with a similar (or even higher) level of annual drum distribution to that achieved in PY3 of Phase I, management costs as a proportion of total costs will decrease substantially.

Table 1: Project Costs by Component

	(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total		
1. Drum Procurement/ Manufacture	671.2	1,481.3	2,152.5	69	43
2. Drum Distribution	595.3	439.6	1,034.9	42	21
3. Project Management	788.5	979.4	1,767.9	55	36
Total BASELINE COSTS	2,055.0	2,900.3	4,955.4	59	100
Physical Contingencies	134.2	226.5	360.7	63	7
Price Contingencies	109.1	157.2	266.2	59	5
Total PROJECT COSTS	2,298.3	3,284.0	5,582.2	59	113

II. OVERALL FINANCING PLAN

The overall financing plan is summarised in Table 2. The proposed financiers are the Government of Timor-Leste (GoTL), the drum recipient beneficiaries, and IFAD. GoTL will finance the tax and duty elements of all Project expenditure. Beneficiaries will be required to make co-payments amounting to \$10 per drum received, equal to around 20% of the farmgate price of a new 200L drum. IFAD will provide grant financing for all remaining Project cost items.

Table 2: Project Costs by Financier

Financier	(US\$ '000)	% Total Costs
GoTL	155.2	2.8
IFAD Grant	4,944.7	88.6
Beneficiaries	482.4	8.6
TOTAL	5,582.2	100.0

III. CO-FINANCING

AusAID has expressed interest on a “no commitment” basis at various stages of the design process in co-financing the Project with IFAD. However, it is not considered prudent for Phase I to be further

expanded geographically at this stage, given the challenges of procuring and distributing 42,000 drums to 116 remote suco across five districts. Depending on the speed with which results flow from the Phase I R&D activities, it may be possible to bring forward to PY3 some preliminary activities associated with developing local capacity for drum manufacture. This might provide an opportunity for co-financing towards the end of Phase I, provided satisfactory co-financing management and coordination arrangements can be agreed. Another alternative would be for AusAID funding to substitute directly for existing allocated IFAD Phase I funding.

ANNEX X: FINANCIAL AND ECONOMIC ANALYSIS

I. Benefits and Beneficiaries

142. Major benefits resulting from the Project are likely to include: (i) improved food security due to reduced storage losses, with associated social benefits; (ii) increased household incomes through reduced purchases (or increased sales) of maize resulting from reduced losses; (iii) reduced imports of food-grain (mainly rice) to bridge national food production deficits, with associated foreign exchange savings; (iv) increased adoption of higher-yielding improved varieties by farmers once they have access to improved storage, due to the generally higher susceptibility of some of the new varieties to storage pests; (v) health benefits associated with improved food availability for poor, food-deficit households, and also associated with decreased reliance on in-kitchen “smoking” to control insect pests with associated links with respiratory health; and (iv) stimulation of private sector activity associated with local production and marketing of drums (Phase II only). The Project will work in five districts selected on the basis of poverty incidence and maize production levels. It is estimated that about 23,000 households (65% of the total rural households in the five districts) will be direct beneficiaries under the Project.

II. Key Interventions

143. TLDFMP aims to improve food security by reducing on-farm maize storage losses, commonly “estimated” to be 25-30% but more realistically likely to be in the range of 12-15%. The availability of suitable maize storage containers at affordable prices is the single most important constraint to reducing maize storage losses. Therefore the key intervention proposed under TLDFMP is the provision of new 200L airtight drums⁸⁰, a low-risk approach which has been tried and proven in parts of Timor-Leste since pre-Indonesian days. In total, about 42,000 drums (average of 1.8 drums per target household) will be imported and distributed over the course of Phase I. Phase I will also actively research the possibility of manufacturing a suitable alternative to imported drums, with the aim of developing this local supply capacity under a possible future Phase II.

III. Financial Viability

144. Financial viability has been assessed by constructing a range of activity models for upland maize production, differentiated on the basis of maize production levels (average households and poorer households); and quantity of storage provided under the Project (1, 2 or 3 x 200L drums). Prevented storage losses have been calculated for each model, and valued in the context of household grain balances, i.e. whether prevented losses are likely to be consumed (in the case of grain deficit households) or sold (grain surplus households). Key results include:

- Reduced storage losses amount to 27.0 kg/drum/year, valued at around \$19/drum. For a household with two drums this represents an increase in household cash income of 19% - 38% (either through reduced purchases or increased sales), assuming WOP household cash incomes of between \$100-200 per annum.
- All models are food deficit “Without Project”. “With Project”, the only model which moves towards being food surplus is model 3, which incorporates the higher maize production scenario and three storage drums. Even for this model, the household is still just food deficit (by 8 kg). For the vast majority of beneficiary households, the major benefits of having improved storage will therefore be related to enhanced food security and reduced purchases, rather than enabling a transition to market-oriented production. Coupled with increased adoption of higher-yielding improved varieties however, provision of improved storage would potentially lift the majority of households out of the subsistence production zone.
- Ownership of one drum/household results in a 3% improvement in food security for an average household; two drums 6% and three drums 9%.

⁸⁰ Supply of 100L drums will also be investigated, which may be more suitable for poorest HHs that produce relatively limited quantities of maize.

- Investment in drums for storage generates a FIRR of 56%, with the full cost of the drum/s accounted for. This demonstrates that it should be possible for farmers to purchase additional drums, provided they can save (or borrow the required capital) against their incremental cash-flows.
- Year 1 cash-flow (after financing) is positive for all models, i.e. beneficiaries are able to pay \$10/drum, which would be more than covered by the value of their reduced storage losses in the first year.
- Returns-to-labour WOP range from \$1.36/day for the lower production scenario to \$1.77/day for the average production scenario. These returns are generally below prevailing market rates for unskilled labour (\$2.0/day), again reinforcing the subsistence nature of maize production. Given that using drums for storage is expected, at worst, to be labour-neutral (i.e. labour is a fixed cost for a given production area and volume regardless of how many drums are owned), returns-to-labour progressively increase as the number of drums used increases. For the low production scenario, WP returns-to-labour progressively increase from \$1.54/ day (one drum) up to \$1.90 (three drums); and for the average production scenario from \$1.90 (one drum) up to \$2.16 (three drums).
- **Sensitivity Analysis.** If drum costs are reduced by \$5 per unit (from \$30 cif to \$25 cif) the FIRR increases to 67%; and to 83% if drum costs are reduced by \$10 per unit. The returns to labour do not change as target families will only pay \$10 per drum, irrespective of the cif drum price.

IV. Economic Viability

145. Economic viability has been assessed by projecting incremental net benefits (value of prevented storage losses, less direct costs of providing this storage, less Project overhead costs), expressed in economic prices. The primary benefit stream is based on valuing reduced storage losses associated with the use of the approximately 42,000 drums which will be procured and distributed under the Project. A secondary benefit stream has also been estimated based on farmers increasing their storage capacity by an additional 50% through the purchase of additional drums through market channels following the distribution of subsidised drums by the Project. The economic analysis incorporates the full overhead Project cost stream, excluding the relatively small Research and Development and Technical Assistance costs only. Including both primary and secondary benefit streams, the Project has the capacity to generate an EIRR of 16%. Excluding the secondary benefit stream, the EIRR drops to 15%. These results justify the Project's investments assuming a 10% opportunity cost of capital over a 20-year period.

146. **Sensitivity Analyses.** The Project's EIRR is highly sensitive to the key assumption related to the percentage of maize lost when stored under traditional systems. For example, if the loss figure is increased from 15% to 20% (a not unreasonable assumption according to many "local experts"), the EIRR (excluding secondary benefits) increases to 22%, and to 24% if secondary benefits are included. The corresponding EIRRs for a 25% maize loss are 29% and 31%, respectively.

147. Using a base 15% maize loss figure, if drum prices are reduced by \$5 per unit (from \$30 cif to \$25 cif) the EIRR increases to 16% (excluding secondary benefits) and to 17% if secondary benefits are included. The corresponding EIRRs for a \$10 reduction in drum cif prices are 17% and 19%, respectively.

148. **Pilot Nature of Phase 1.** It should be noted that TLMSP has been designed as a pilot activity, laying the foundation for subsequent phase/s which will promote improved storage for maize, and possibly other crops, nation-wide. Once this scale-up occurs, there will be a corresponding improvement in the financial and economic impacts outlined above. Note also that if the availability of improved on-farm storage increases, the adoption of higher yielding varieties of maize (some of which are more susceptible to insect damage), as expected, the financial and economic benefits will further increase. For instance, the combination of SoL III and the TLPHP has the potential to increase food production considerably. For example, 1 tonne maize/ha = 0.7 tonnes grain for consumption (no storage); compared with 1.5 tonnes maize/ha (SoL variety) = 1.4 tonnes grain for consumption/sale (storage and SoL variety); a 100% increase in food availability and even greater increase in value as stored surpluses can be sold in off-season markets or use for livestock

ANNEX XI: ADHERENCE TO IFAD'S POLICIES

I. OVERVIEW OF IFAD'S POLICIES

149. This annex is based on “IFAD Strategic Framework: 2011-15, Concept Note”. Although a draft it is expected that IFAD's Board will approve the Strategic Framework (SF) by the end of 2010 and therefore it is logical to use this SF as a basis for a discussion on the Timor-Leste Maize Storage Project's (TLMSP's) adherence to IFAD's policies.

150. The contents of this annex reflect IFAD's: (i) assessment of the fundamental causes of poverty; (ii) development and strategic objectives; and operational outcomes, outputs and inputs; and (iii) principles of engagement (targeting, empowering poor rural people, innovation, learning and scaling-up, effective partnerships, sustainability, and economic efficiency).

151. The annex also contains the Environmental and Social Review Note.

II. ADHEREANCE TO IFAD'S POLICIES

152. TLMSP's adherence to IFAD's policies is presented in tabular format (Table 1) and uses the above-listed points as “questions” against which comments are provided on the relevant design features of TLMSP. If an IFAD policy is considered not to be relevant to TLMSP, e.g. “helping the poor to build their own collective organizations”, then such a point has not been included in the table, and therefore not responded to.

Table 1: TLMSP Adherence to IFAD's Policies

IFAD's Policies	Comments
Fundamental causes of poverty.....<u>lack of access to services and technology</u>	<ul style="list-style-type: none"> Although TLMSP is a simple design, the provision of 200L maize storage drums to poor upland farming households is a “technological leap” in the context of their present standard of living. Therefore the level of technology being promoted is considered to be appropriate and sustainable, particularly when assessed against reported difficulties by Timor-Leste' development partners with the extension of “more sophisticated technology” such as the use of fertilizer to grow irrigated rice, and the application of conservation agriculture principles to rainfed farming.
The changing face of agriculture and new aid architecture..... (i) new technologies; (ii) strengthened relations with country partners; and (iii) focused strategic partnerships	<ul style="list-style-type: none"> <u>New technologies</u> – see above comments <u>Strengthened relations with country partners</u> – TLMSP will be IFAD's first development initiative in Timor-Leste and therefore the Fund will only commence building relationships with country partners once Project implementation commences. However TLMSP will be embedded in the Ministry of Agriculture and Fisheries' (MAF's) Post Harvest Management Division, which is located in the National Directorate of Agriculture and Horticulture. At the district-level of implementation, TLMSP will be based in MAF's District Offices to encourage coordination and cooperation with MAF's District Directors, and Food Crops and Food Security staff based at this level. At the National (Dili) level the Projects Project Management Unit (PMU) will provide ongoing and day-to-day advice and training to MAF's finance and procurement staff in the Director General's Directorate. In addition there are two country partners with which relations will be strengthened - with district level and local (suco and aldeia) level governments and communities. Drum delivery will be organized and undertaken through this well-established conduit with support from Project Facilitators so over time it is expected that TLMSP will build solid and respectful relationships with District and Sub-District Administrators, Suco and Aldeia Chiefs, and drum recipient

IFAD's Policies	Comments
	<p>communities.</p> <ul style="list-style-type: none"> • <u>Focused strategic partnerships</u> - TLMSP has been designed with a number of strategic partnerships in mind, (see Key File Table 4, Annex 13) including: (i) Seeds of Life Phase III, an AusAID- and ACIAR-funded bilateral Programme which identifies, multiplies and distributes seeds and planting material of Timor-Leste's main food crops, and is considered to be one of the most successful agricultural development projects in Timor-Leste; (ii) Drums on Farms, a small local NGO which has been distributing used 200L aviation fuel drums to maize growing families in Liquica District; (iii) CARE's Local Initiatives for Food Security Transformation Project (LIFT), which is EC-funded and distributed 6,000 used and cleaned 200L fuel drums in 2010; and (iv) Rural Development Programme IV which is also EC-funded and will support MAF's Suco Extension Officers (SEOs) who will have informal roles in drum the delivery.
<p>IFAD's comparative advantage and role.....(i) build on lessons and experience to scale-up successful approaches and enhance development impact; (ii) assemble packages of resources to serve larger groups of rural people; and (iii) strengthen partnerships with key development partners</p>	<ul style="list-style-type: none"> • <u>Build on lessons and experience for scale-up and impact</u> – The design of TLMSP has heeded many lessons learned from small-scale drum-based maize storage projects, and other rural development projects. These are detailed in Annex 3. The most relevant include: (i) focus tightly on core issues (the main reason for Seeds of Life's success); (ii) use clearly defined results-based indicators which are easy to monitor and facilitate project implementation; (iii) a good understanding of the socio-economic situation, farming systems and livelihood opportunities is crucial for design and impact analysis; (iv) outcome and output targets must be realistic; (v) complexity in the design impedes local ownership; (v) development work should be built on a legislative framework and functioning institutions; (vi) technical interventions should only be released after they have been selected and farmer-evaluated against a range of production, storage and consumption criteria; (vii) if projects are to be implemented through GoTL ministries, support needs to be embedded in divisions and directorates where there is consistent leadership and ownership; (viii) the development of sustainable capacity within MAF takes considerable time; (ix) building networks and "win-win" partnerships with a range of development partners with common development objectives can provide a viable mechanism for scaling-up, provided the partners work to a commonly-agreed plan; (x) gender needs to be fully integrated across projects, and appropriately resourced if it is to be adequately addressed; and (xi) utilisation of GoTL financial systems for disbursement is slow and should follow a cautious, step-by-step approach. • <u>Scale-up</u> is expected to commence with Phase II, after TLMSP's strategic approach and its simple technology have been proven. In addition, it now seems probable (August 2011) that Phase II could be based on the local (in-country) manufacture of maize storage containers. There are two options: (i) the manufacture of fibre-glass containers; and (ii) the importation of drums in "knock-down" form (tops and sides) with assembly being undertaken by local manufacturers. • <u>Assemble packages of resources for larger groups</u> – The design of TLMSP clearly reflects this point as the Project will initially import and then plans to manufacture large consignments of drums (23,000 in total) for delivery to large groups of rural people (23,000 households). Implementation on this scale will result in the development of gradual economies of size and once in-country drum production is operational, it is expected that the unit cost of manufacturing and delivering drums will decline. • <u>Strengthen partnerships with key development partners</u> – see above

IFAD's Policies	Comments
<p>IFAD's Overarching Goal.....to help rural smallholders in developing countries to achieve higher incomes and improved food security by helping them build viable rural farm and non-rural enterprises that are integrated into national and global value chains</p>	<ul style="list-style-type: none"> • <u>Higher incomes</u> – Working Paper 6 and Annex 10 outline how TLMSP will increase target household incomes by: (i) reducing losses of stored maize; (ii) reducing food purchases during the “hungry season”; and (iii) eventually (once households expand their on-farm maize storage capacity by buying additional drums) increasing sales of surplus maize. Generation of the latter benefit will require close cooperation with the Seeds of Life Programme and use of the Sele maize variety, which results in a 50% increase in yield. In summary it is expected that households with two 200L drums will experience a 20% – 40% increase in annual cash incomes, and that the Project will be financially attractive to upland maize-growing families (FIRR of about 55%). • <u>Improved food security</u> – This is key focus of TLMSP; the goal is “improved food security for maize-growing households in Timor-Leste”, and the development objective is “reduced losses of maize stored on-farm”. Initially (see Annex 10) it is expected that households with two 200L maize storage drums will save about 54 kg of maize per year, based on a very conservative maize loss figure of 15%, compared with local “estimates” of losses as high as 30%. The intention is for TLMSP to eventually be scaled-up into a national Project and therefore benefit about 100,000 upland maize-growing households. Once this occurs the annual increase in food security will be considerable and of immense value to Timor-Leste, in terms of reduced rice imports. • <u>Viable rural farm enterprises</u> – Drum recipients will be expected to make a financial co-contribution of \$10/drum. However the financial analysis outlined in Annex 10 is based on households paying a full market price for drums (\$50), and concludes that once drums and Sele maize seed are combined as a “circuit-breaker”, recipient families will be able to operate viable farm enterprises based on the sale of surplus maize or through value-adding in the form of animal feeding. In summary it is expected that TLMSP will contribute substantially to IFAD's goal of “building viable rural farm enterprises”.
<p>IFAD's Strategic Objectives.....IFAD will aim to ensure that, at the national level, poor rural men and women have better and sustainable access to, and have developed the skills and organizational capacity they require to use the following effectively (selected points): (i) <u>improved agricultural technologies</u> and effective production services, with which to enhance their productivity; and (ii) - <u>local and national policy and programming processes</u>, in which they participate effectively so that their interests are fully acknowledged</p>	<ul style="list-style-type: none"> • <u>Improved agricultural technologies</u> – see comments above. • <u>Local and national policy and programming processes</u> – TLMSP does not contain activities which focus specifically on using outcomes from the Project to influence local and national policy and programming processes. In fact many development partners in Timor-Leste have experienced considerable problems and frustration when attempting to achieve this objective. This is because GoTL is now (understandably) making budgetary and policy decisions for the country's rural sector independently of advice from development partners. <p>It is significant that at present GoTL (and MAF) have prioritized Timor-Leste's irrigated rice production sector at the expense of the larger (in terms of crop areas and the number of households involved) rainfed and maize dominant sector (see Annex 3). This situation makes it difficult for IFAD and TLMSP to influence national policy and programming processes, hence the decision to exclude this objective from the design. However in the longer-term it is possible that, once impacts begin to be generated by TLMSP, the Project will be able to progressively influence how GoTL and the Ministry of Finance allocate resources to the country's non-irrigated agricultural sector, and to recognize the potential of the rainfed sector to contribute to increased food production and rural incomes. This process will take some time but as TLMSP is intended to be a three-phased Project it should be possible to use the Project's M&E results to at least raise the awareness of MAF's planners and MoF's budget allocation officials of the critical importance of Timor-Leste's rainfed farming communities.</p>

IFAD's Policies	Comments
<p>IFAD's Operational Outcomes.....to achieve its strategic objectives IFAD will strive for three sets of operational outcomes: (i) <u>direct local-level impact</u>: increased incomes and enhanced food security for rural people; (ii) <u>improved policy framework and improved environments</u> for smallholder development; and (iii) <u>strengthened in-country capacities for agricultural and rural development</u></p>	<ul style="list-style-type: none"> • <u>Direct local impact (incomes and food security)</u> – see above comments • <u>Improved policy frameworks and environments</u> – see above comments on local and national policy and programming issues • <u>Strengthened in-country capacities for agricultural and rural development</u> – TLMSP will not specifically strengthen capabilities for agricultural and rural development, with the exception of support for MAF's finance and procurement staff at the national level. At the district level, Project staff will work out of MAF's District Office and liaise with the District Director and his/ her Food Crops and Food Security Staff. And by implementing the Project through local government (District/ Sub-district Administrators, and Suco and Aldeia Chiefs) and local rural communities, it is expected that these levels of GoTL staff and community leaders will developed improved capabilities to deliver agricultural and rural development programmes to their constituents. In addition rural communities will also be strengthened as a result of the community drum delivery preparation and training activities which will be under-taken by groups of households, all of which have similar objectives – increased supplies of staple food during the "hungry season".
<p>IFAD's Principles of Engagement</p> <p>(i) <u>Targeting</u>: (a) poorest rural people; (b) poor rural people with capacity to take advantage of economic opportunities..... (c) work with people who depend on agriculture for their livelihoods; and (d) focus particularly on women</p> <p>(ii) <u>Empowering poor rural people</u>: (a) enabling the poor to build assets, knowledge, skills and confidence</p> <p>(iii) <u>Innovation, learning and scaling-up</u>: (a) focus on developing innovative approaches to rural poverty</p>	<ul style="list-style-type: none"> • <u>Targeting</u> - (Annex 2 and Working Paper 4). Targeting was a key aspect of the design process with extensive field trips to test and refine the recommended targeting process. TLMSP will initially target the economically active poor in Aileu (district) (Year 1), Manufahi and Manatuto (Year 2), and Ainaro and Viqueque (Year 3). Sixty-seven per cent of households in these districts live below the 2008 TLSLS poverty line. The first four districts are in the Central Region where poverty is most concentrated and maize is the most important staple. In addition to the poverty incidence, information on food insecurity in Timor-Leste indicates that remote and upland farming households are the most affected by food shortages. In total, TLMSP is projected to directly benefit around 65% of rural households in the target districts, representing 18% of all rural households nation-wide. <p>Following general geographic targeting, the final target sucos will be identified in consultations with key local stakeholders (i.e. District and Sub-District Administrators and Suco and Aldeia Chiefs; and Suco Extension Officers) drawing on their local knowledge of mixed (maize and rice) farming areas, and of the rice dominant areas (to be excluded from the target areas). Within selected districts the Project will make use of a set of purposefully-designed, demand-driven and mutually agreed upon actions and measures to ensure, or at least significantly increase the likelihood, that households will take advantage of the drum-based development initiative. In essence this means that TLMSP will directly target the economically active poor who are small-scale maize producers. The Project will strive to balance the funding available with the expressed high demand for drums and recognizes that some groups amongst the rural poor might benefit more from drums than others. As the needs of particularly vulnerable households are better addressed with direct GoTL support, TLMSP does not intend to duplicate these interventions and will therefore target the economically active poor who do not receive similar levels of GoTL support. Based on available population figures, TLMSP has identified about 23,000 rural households in the five target districts who could benefit from 1-2 maize storage drums during the three years of Project implementation.</p>

IFAD's Policies	Comments
<p>reduction; and (b) emphasize knowledge generation and sharing</p> <p>(iv) <u>Effective partnerships</u>: (a) strengthen key partnerships with national stakeholders, the international development community, and the private sector; (b) became an assembler of resources, packaging into large scale investment programmes and having significant impact on rural poverty; and (c) eliminating non-performing partnerships</p> <p>(v) <u>Sustainability</u>: (a) improvements in design quality; (b) promotion of national leadership; and (c) ensure that projects are owned by the rural poor themselves</p>	<ul style="list-style-type: none"> • <u>Empowering poor rural people</u> – TLMSP will empower poor rural people in Timor-Leste by: (i) assisting with the accumulation of household assets (drums will be some of the most valuable individual assets owned by the target families) and once households experience the benefits of using drums to store maize it is anticipated that at least a percentage of the target group will increase their maize storage capacity by purchasing drums on the open market; (ii) building their knowledge on how to store maize in order to avoid losses due to weevils and rodents, and on how to maintain their drums; and (iii) in the longer-term building household skills and knowledge related to not only maize storage but also increased sales of surplus maize and/ or value-adding through animal feeding on a small-scale. • <u>Innovation, learning and scaling-up</u> – TLMSP is not based on an innovative approach to rural poverty reduction, as the use of drums for on-farm maize storage has been practiced by some upland families for more than 20 years, and this simple technology is being rolled-out by NGOs and other development partners. The main constraint to a nation-wide expansion of this simple and proven technology is the availability of 200L drums and funding to cover the cost of importation and/ or drum manufacture. This is where IFAD can assist. In essence TLMSP is based on a large scale-up of proven technology and therefore the risks associated with such technology are limited. And, once Phase I proves the approach to the provision of a large number of maize storage drums it should be a relatively simple exercise to scale-up the Project to the national level with the objective of satisfying the demand for maize storage drums throughout the country. <p>TLMSP has been designed with emphasis on knowledge generation and sharing, with a particular focus on poor rural households who rely on rainfed maize production for most of their staple food. The success of TLMSP will depend on improving the target population's knowledge of improved maize storage practices, and to some extent on their sharing of this knowledge with other family members and the wider community. Field work confirmed the already wide-spread understanding of how to store maize in drums, and to a lesser extent some understanding of why the technology works (many interviewed households already know that drums have to be kept airtight to eliminate the threat of weevil damage).</p> <ul style="list-style-type: none"> • <u>Effective partnerships</u> – Partnerships with national stakeholders and the international development community, and assembling packages of resources into large-scale investment programmes in order to have a significant impact on rural poverty, have been discussed above. Therefore this comment focuses on the importance of TLMSP developing partnerships with the private sector in Timor-Leste. <p>TLMSP expects to initially import complete or knock-down form 200L drums and to then switch to the use of drums which are manufactured in-country. The latter process will need to be completed by financially viable and sizable manufacturing businesses who will receive support from the Project in the form of contestable R&D funding. It is expected that these funds will be used for the development and testing of local 100L and 200L drum prototypes, and to complete feasibility studies on the financial viability of expanding businesses to a national scale. During the design process a number of meetings were held with the manager of East Timor Roofing (ETR) and confirmed that this business has the resources, skills and experience to be one of the main targets for a private sector partnership under TLMSP. ETR is financially viable and operates a modern and medium-scale roofing and tank-making factory in Baucau town.</p>

IFAD's Policies	Comments
<p>(vi) <u>Economic efficiency</u>: (a) focus on the economics of investments in addition to poverty reduction to achieve more sustainable outcomes</p>	<p>In addition, there is reportedly a similar business which recently commenced operations in Dili. This business could also qualify for support from TLMSP, depending on further assessment. There has been also been an approach by a commercial manufacturer of fibre-glass grain storage containers who claims that this process will be price competitive.</p> <p>Another option for commercial partnerships has also arisen since the project design was completed. A machine (\$6,000 fob) which fabricates drums from their components parts has been identified. This means that it may be feasible and financially attractive to fabricate 200L drums in the district centres (once they have reliable power supplies). This approach would reduce unit costs considerably. Note however that the Final Design remains based on the initial importation of 200L drums.</p> <p>There is no need for IFAD to eliminate non-performing partnerships because at present IFAD has no firmly-established partnerships in Timor-Leste</p> <ul style="list-style-type: none"> • <u>Sustainability</u> – The design for TLMSP reflects IFAD's guidelines for design quality. Although not deliberately designed to promote national leadership the design does recognize the importance of capacity building within line ministries (in this case MAF's Dili-based Finance and Procurement Divisions, its Post Harvest and Management Division, and its District Offices); and working through and supporting district-level and local community governments and structures (Suco Councils, and Suco and Aldeia Chiefs) and developing communal skills in on-farm grain storage. <p>The design also recognizes the importance of ensuring that TLMSP is owned by upland and poor rural communities in target districts. The design "tested" the proposed design with many households during field work and received unanimous support for the approach to sustainable agricultural development and the proposed implementation methodology. Timor-Leste's upland rural communities are well-aware of the benefits to be gained by storing maize in airtight drums and therefore are expected to ensure that they have strong ownership of TLMSP and its expected outcomes.</p> <ul style="list-style-type: none"> • <u>Economic efficiency</u> – Annex 10 and Working Paper 6 contain an economic analysis of the Project. It is anticipated that TLMSP will generate an ERR of at least 14%. This is sufficiently robust for a pilot Project which is expected to scale-up into a national-level Project in later Phases and therefore achieve economies of size, and probably be able to reduce costs by either importing large numbers of new or knock-down form 100L and 200L drums, and then by encouraging local drum manufacture in Timor-Leste. <p>GoTL imported 95,000 Mt of rice in 2009 and 55,000 Mt in 2010, and intends to accept a donation from China of 50,000 Mt of rice in 2011. It is anticipated that TLMSP's contribution to the national economy (in terms of reduced rice imports and/ or substitution of the value of rice donations into other sectors) is substantial and therefore it is reasonable to predict that TLMSP will generate acceptable ERRs in the foreseeable future. TLMSP will not only reduce upland poverty but also contribute to a more sustainable future for Timor-Leste's rural sector.</p>

III. ENVIRONMENTAL AND SOCIAL REVIEW NOTE

Title of Project: The Timor-Leste Maize Storage Project (TLMSP)

A. DESCRIPTION OF PROJECT AND COMPONENTS

153. The **goal** of TLMSP is improved food security for maize growing households in Timor-Leste. The **development objective** is reduced losses of maize stored on-farm.

154. **Outcome 1.** New 200L maize storage drums procured and/ or manufactured locally. Initially the Project will depend on the international supply of new drums. It is expected that drums will be imported for most of the first phase (42,000 drums over three years) whilst at the same time local (private sector) manufacture of drums is investigated through an R&D programme which focuses on alternative drum/ container design, in-field testing of prototypes, and business development feasibility studies on expanded local drum manufacture to a national level.

155. **Outcome 2.** Maize storage drums distributed and used effectively will be achieved through the following sequential steps: (i) training direct-hire Project Facilitators (PFs) in basic community organization skills and drum delivery/ use; (ii) targeting and preparing households (in terms of eligibility and preparedness to receive and use 1-2 drums for maize storage, depending on household-level maize production and willingness to pay a co-contribution of \$10 per drum); (iii) preparation of district, sub-district, suco and aldeia drum delivery and distribution plans; (iv) drum distribution in time for the next maize harvest before the wet season makes drum delivery difficult, and the collection and deposit of recipients' co-contributions (v) training and support (provided by PFs) in drum use and management; (vi) piloting of drum distribution through selected agents in district markets; and (vii) drum distribution through selected existing NGO community networks. Twenty three thousand households will receive 42,000 drums during the three-year Project.

156. **Outcome 3.** Efficient Project management and coordination, through: (i) the establishment and operation of a Project Management Unit (PMU) at the national level; (ii) the design and operation of a Project M&E system; and (iii) the appointment and training of direct-hire District Coordinators (DCs) and Deputy District Coordinators (DDCs). A PMU consisting of an international Project Manager (PM), a national Finance Officer (FO), a national Procurement/ Logistics Officer (P/LO), a national Monitoring and Evaluation Officer (M&RO), and national support staff will be based in Dili. The PMU will be supported by a short-term international Post-harvest Storage Specialist (PHSS) and a short-term national Monitoring and Evaluation Specialist (M&ES). Project monitoring will encompass: (i) baseline and follow-up household surveys on maize storage losses; (ii) periodic assessment of on-farm maize storage practices; and (iii) periodic assessment of drum use.

B. MAJOR SITE CHARACTERISTICS

Socio-Cultural Context

157. TLMSP will focus on poor, upland maize farming households who subsist on mixed maize, and roots and tubers gardens. This sector of society is the poorest in Timor-Leste (70% of the rural population are below the poverty line in the targeted central region) and has received little development support compared with lowland rice growers who have been the target for support in the form of subsidized inputs. The upland households suffer severe periods of hunger and malnutrition in the period November to February when food reserves are exhausted. Household sizes average about six persons (2010 national census) and many poorer rural households attempt to feed and house eight children. Timor-Leste's Human Development Index in 2010 was 0.502 (before inequality adjustments), which ranks the country 120 out of 169 countries with comparable data. This figure represents an average annual increase of about 3.2% in the Index. However when Timor-Leste's HDI index is discounted for inequality, the HDI falls to 0.334, a decline of 33%.

158. The employment structure of Timor-Leste's economy is dominated by farming. In terms of the main occupation of the employed between the ages of 15 and 64 years, farming accounts for about 82%, wage employment accounts for about 12% and non-wage non-farm employment accounts for about 7%. People engaged in farming have the highest poverty incidence and account for 88% of the poor amongst the employed. A key factor underlying poverty in Timor-Leste is the overwhelming dependence of the population on the farm sector for employment, and in which labor productivity for all crops and livestock species is very low.

159. Food dominates the population's consumption pattern, accounting for two-thirds of total consumption. The consumption pattern of the poor is even more dominated by food - 70% of their total consumption. The Government of Timor-Leste's (GoTL's) current rice policy is based on importing rice which is then sold at a maximum retail price of 0.34/kg. This is basically a consumption subsidy which in the absence of product differentiation implies a very low market price.

160. Female-headed households account for about 10% of the population, and about the same proportion in urban and rural areas. At the national level the incidence of poverty for female-headed households (44%) is lower than that for male-headed households (51%). In rural areas the same applies; 52% of male-headed households live in poverty compared with 43% of female-headed households. For the country as a whole, female-headed households account for about 9% of the total poor compared with 8% of the rural poor and 10% of the urban poor.

161. The lower incidence of poverty amongst female-headed households is probably a result of these households being significantly smaller than those headed by males. In 2007 the average female-headed household had 3.9 members compared with 5.8 in male-headed households. In addition female-headed households had fewer children under 15 as well as lower child-dependency ratios. Therefore the lower poverty incidence of female-headed households is probably attributable to their relatively smaller size and lower levels of child dependency. When household sizes are adjusted, female-headed households tend to be poorer than male-headed households. Consistent with the pattern widely observed in many countries, poverty increases with household size, for example for a household size of six, the poverty incidence for male-headed households is 53% compared with 61% of female-headed households. More importantly the adjusted figures show that for any given household size, the incidence of poverty is higher for female-headed households.

162. Although the precise impact of climate change on Timor-Leste's livelihoods is yet to be examined in any scientific manner⁸¹, there are indications that extreme weather events in recent years have been due to climate change. Threats to livelihoods will exacerbate already high poverty levels; women and children will have to spend more time fetching water and fuel thus affecting women's workforce participation and children's (particularly girls') educational opportunities. Human health patterns may also change leading to a loss of productive days and an extra burden on health care, both by individuals and the state⁸².

Land and Water Aspects

163. Timor-Leste has six ecological zones which are distinguished by altitude and geography (north, south coasts). Being very mountainous and elongated (east-west) means that farming systems change with altitude and distance from the sea. Whilst all farming systems are traditional and subsistent, there is a basic demarcation which allows definitions of farming systems – this being the demarcation between: (i) lowland, valley-based irrigated rice production; (ii) upland, rainfed maize-based production system; and (iii) highland small-scale coffee production. Timor-Leste's farmers are very risk averse and therefore grow a range of mixed subsistence crops, irrespective of whether they are lowland or upland farmers. Even the coffee growers rely on maize and mixed roots and tubers as their staples. Small coastal communities rely on lowland tree crops, (coconut, and sago palm) and traditional fishing methods, and are amongst the poorest. There is no commercial forest industry (mainly due to land tenure issues) and very few farmers grow commercial timber.

164. GoTL's current agricultural development priority is the irrigated rice sector. Support is in the form of rehabilitated and/ or new irrigation systems, and free rice production inputs - seed, fertilizer and machinery. Despite this investment, rice yields remain very low by world standards (see Working Paper 1) and water use efficiency is also very low due to unreliable stream flows, even in the wet season. Farmers in the rainfed zone rely on subsistent swidden farming systems (about 0.7 ha per family) which have resulted in large areas of denuded, eroded and degraded land, much of which has been invaded by a severe noxious weed (*Chromolaena*). Upland farmers use zero inputs other than retained seed and family labor. Apart from the AusAID/ACIAR-funded Seeds of Life (SoL) Programme there is no GoTL-funded research into improved farming systems, even though 70% of the population rely on agriculture for their meagre livelihoods and are increasingly vulnerable to rainfall variation.

⁸¹ Seeds of Life Phase II appointed a Climate Change Advisor and this position will continue through into Phase III.

⁸² (<http://www.tl.undp.org/undp/mdgseven.html>)

c. CLIMATE, IMPACT AND VULNERABILITY

165. Timor-Leste's climate is generally described as tropical with two climatic zones corresponding approximately to the northern and southern parts of the country which are divided by mountains and a central plateau. The northern parts have a mono-modal rainfall pattern between November to April. The coastal areas receive (on average) 500 to 1,500 mm of rain per annum, while above 500 metres altitude, annual rainfall varies from 1,500 to 3,000 mm. The southern zone has a bi-modal rainfall pattern, i.e. two, three-month rainy seasons from December to February, and May to July. Coastal areas receive an average annual rainfall of between 1,500 and 2,000 mm, while areas above 500 metres altitude receive more abundant rainfall ranging from 1,700 to 3,000 mm per annum.

In terms of TLMSP Timor-Leste's climate will not have any direct impact on the outcome of the Project. This is because there is an urgent need for improved maize storage at the household level, irrespective of how changing rainfall patterns might impact on the productivity of upland agriculture. However indirectly, if maize production declines as a result of changes in rainfall patterns, the potential for poor upland farmers to benefit from improved maize storage will decline simply because there will be less maize to store

D. MAIN ISSUES IN NATURAL RESOURCE MANAGEMENT

166. Timor-Leste's agricultural sector faces many natural resource management issues which are discussed below in note form;

- i. Land degradation caused by inappropriate farming systems (swidden agriculture) and years of deforestation on steep and erosion-prone hills is severe throughout the country and contributes to the problem of very low crop yields (Working Paper 1). Environmental awareness amongst the rural population is very low and aid programmes are just beginning to address this constraint. Large areas of steep land are now totally unproductive and even if farming systems could be changed, it will take years for these areas to recover. Furthermore the problem will increase in the future as rural populations grow and swidden cycles become shorter. However as mentioned above this issue does not directly relate to TLMSP.
- ii. Recent work on climate change indicates that some agricultural areas will receive more (and more erratic) rainfall, and increased temperatures in the growing season⁸³. These predicted changes indicate an urgent need for the identification of new food crop varieties which are tolerant of such conditions. As with (i) this scenario will have no direct impact on TLMSP.
- iii. The quality of life of Timor-Leste's rural population is very low by international standards (Working Paper 2) and this situation has a direct impact on crop and livestock production, and labour productivity. Labor constraints limit the areas of the main food crops and most poor upland families can only grow about 0.7 ha of mixed garden per year. This means that households are very hungry by the end of the calendar year and suffer about a three month "hungry season". An almost total lack of services in the remote upland areas (often due to impassable roads) exacerbates this situation.
- iv. Generally institutional capacity remains weak despite nearly 10 years of massive aid and assistance programmes following independence in 2002. This is because all capacity building activities commenced from a very low base and have had to address fundamental literacy and numeracy constraints. The Ministry of Agriculture and Fisheries (MAF) has over 1,800 staff (of which about 800 are based in the rural districts) but these staff have limited technical, community/ rural development and agricultural extension skills and experience, and almost no operating budgets⁸⁴. Accordingly, projects which rely on implementation through this channel (MAF's Suco Extension Officers) encounter many difficulties. This is one of the reasons why TLMSP will be implemented through district and local government systems (with support from Project Facilitators).
- v. There are good opportunities to enhance natural resource management including: (i) improved farming systems which retain surface cover on swidden surfaces (conservation

⁸³ Seeds of Life II Programme – report by the Climate Change Adviser.

⁸⁴ This situation should improve once the European Commission-funded Rural Development Programme IV commences in late 2011.

agriculture); (ii) more wide-spread use of legumes grown in combination with upland maize; (iii) introduction of improved food crop varieties with higher yields (through the Seeds of Life Programme); and (iv) community-based agro-forestry projects. However the wide-spread introduction of such development interventions into Timor-Leste's rural sector is difficult because of limited institutional capacity and thousands of years of entrenched traditional farming systems, which although suited to risk-averse upland farmers, are unproductive and incapable of producing sufficient food for about 1.05 million people. It is for this reason that TLMSP is based on a very simple, single intervention – the supply and delivery of maize storage drums to poor upland farmers, many of whom have past experience with this form of grain storage and are therefore very receptive to this type of support.

E. POTENTIAL SOCIAL AND ENVIRONMENTAL IMPACTS AND RISKS

167. TLMSP has been designed to avoid any social or environmental impacts or risks. The delivery of maize storage drums to upland farming families will have a considerable and positive social impact in the form of additional food being available (because of reduced wastage) during the “hungry season” and therefore improved nutrition for all household members.

168. There will be no environmental impacts and/ or risks as Timor-Leste's rural households have considerable previous experience with the use of drums to store grain, and with the use of rusty or non-airtight drums (after at least 20 years of use) as fencing materials – the drums are split open and the sides used to fence-off vegetable gardens around houses, and for simple piggeries.

F. ENVIRONMENTAL CATEGORY

169. A review of the TLMSP against IFAD's Environmental and Social Assessment Procedures (EB 2009/96/R.7) indicates that the Project is clearly Category C - projects which do not require additional environmental analysis because the (proposed) activities will have negligible or minimal adverse environmental impacts.

G. FURTHER INFORMATION REQUIRED TO COMPLETE SCREENING AND SCOPING

170. No further information is required to complete the environmental screening and scoping process.

H. RECOMMENDED FEATURES OF PROJECT DESIGN AND IMPLEMENTATION

171. There are no features of Project design or the planned implementation process which require special social and environmental consideration. As planned TLMSP will have no impact on the environment and will be very positive from a social point of view – increased supplies of food for all family members.

I. MONITORING ASPECTS

172. Project monitoring and evaluation will be simple and focused on direct Project outcomes. The M&E framework (Annex 6 and Working Paper 8) is based on: (i) baseline and follow-up household surveys on maize storage losses; (ii) periodic assessment of on-farm maize storage practices; and (iii) periodic assessment of drum use. There will be no specific environmental monitoring (not required) and social impact monitoring will be limited to interpretation of the impact of increased food supplies on household well-being.

J. COMPONENTS REQUIRING ESA AND SCOPE ASSESSMENT

173. No components of TLMSP require ESA and scope assessment.

K. RECORD OF CONSULTATIONS WITH BENEFICIARIES, CIVIL SOCIETY, ETC.

174. The Detailed Design Mission consulted with beneficiaries, GoTL, civil society, NGOs, bilateral aid agencies, etc., on the likely environmental impacts of TLMSP, for the above-listed reasons. Furthermore, numerous consultations were held during the three-week mission with this wide audience to ascertain their reactions to the proposed design and to the predicted and positive

outcomes in terms of achieving the goal (improved food security for maize growing households in Timor-Leste) and the development objective (reduced losses of maize stored on-farm).

175. With one exception (FAO was initially opposed to the use of used drums for on-farm maize storage) the proposed design and predicted impact received endorsement from all potential stakeholders. During design three field trips were undertaken to six rural districts and met with numerous members of district and local governments, and local community leaders (Suco and Aldeia Chiefs), and potential beneficiary households. The former endorsed the proposed drum delivery mechanism (through local government and the suco and aldeia network with assistance from Project Facilitators) and the latter indicated complete support for the Project – not one farming family interviewed during the design process expressed any negative sentiments against the subsidized provision of improved on-farm storage for maize. In summary, the demand for drums for maize storage in Timor-Leste is huge and the only constraint is the supply of drums.

ANNEX XII: CONTENTS OF THE PROJECT LIFE FILE

I. IFAD DOCUMENTS

Note: the name of the Project changed between the Detailed Design Mission in late 2010 and the Final Design/ Appraisal Mission in July/ August 2011 – from the Timor-Leste Drums for Maize Project (TMDFMP) to the Timor-Leste Maize Storage Project (TLMSP).

The following IFAD documents were prepared during the project design process:

Strategic Opportunities and Entry Points for IFAD (2009)

Timor-Leste: Post Harvest Project (TLPHP) Project Design Report – Inception Stage (June 2010)

T L Project Concept Note (OSC Version) (Final) (28-9-10)

TL PDR Initial Design Stage Second Draft (Final) (28-9-10)

REVIEW OF APPROACHES TO REDUCE POSTHARVEST LOSSES OF HOUSEHOLD FOOD AND SEEDS (October 2010)

TOR TLPHP Detailed Design Mission (November 2010)

TLDFMP Aide Memoire, Dili 1st December 2010

TLDFMP Project Design Report (December 2010)

TLDFMP Working Papers (Volume 2 of the PDR):

- (i) 1. Agricultural Background
- (ii) 2. Rural Poverty in Timor-Leste
- (iii) 3. Food and Grain Storage in Timor-Leste
- (iv) 4. Targeting and Gender
- (v) 5. Institutional and Community Organization
- (vi) 6. Financial and Economic Analyses
- (vii) 7. Project Costs
- (viii) 8. Monitoring and Evaluation
- (ix) 9. Environmental and Social Review Note

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SoL, Cropping Calendars for Seeds of Life Sub-districts, 2007-2009

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SoL, Introduction to Seeds of Life, June 2009, 4p

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ANNEX XIII: KEY FILE TABLES

Note: the name of the Project changed between the Detailed Design Mission in late 2010 and the Final Design/ Appraisal Mission in July/ August 2011 – from the Timor-Leste Drums for Maize Project (TMDFMP) to the Timor-Leste Maize Storage Project (TLMSP).

I. Key File Table 1: Logical Framework

Results Hierarchy	Indicators	Means of Verification	Assumptions
Goal: Improved food security for maize-growing households in Timor-Leste	<ul style="list-style-type: none"> Percent improvement in HH food security due to increased on-farm supplies of maize, initially after harvest and then in the “hungry season”. *No. of HHs with improved food security. *No. of HHs showing improvement in IFAD’s HH asset ownership index. *Percent reduction in the prevalence of child malnutrition. 	<ul style="list-style-type: none"> Assessed reduction in storage losses due to Project (from survey reports), as a % of total HH food requirements (from TLSLS reports). Drum distribution records. Project survey. Secondary data from WFP and UNICEF <u>Goal-level indicators reported at beginning and end of Project.</u>	<ul style="list-style-type: none"> Peace and civil order are maintained. No major changes in MAF’s agricultural development policy and strategies.
Development Objective: Reduced losses of maize stored on-farm	<ul style="list-style-type: none"> On-farm storage losses reduced from over 12% to less than 1% (cumulative weight loss basis) for households adopting improved storage techniques. 	<ul style="list-style-type: none"> Baseline survey report on extent of maize losses under traditional storage systems. Drum use monitoring program reports. Participatory Impact Assessments. <u>Development objective-level indicators reported annually.</u>	<ul style="list-style-type: none"> Farmers are willing to move away from traditional storage practices. Recommended on-farm maize storage technology (drums) is acceptable/ affordable to target rural households.
Output 1: Maize storage drums procured and/or manufactured locally: <ul style="list-style-type: none"> (iv) New 100L and 200L drums imported (v) 100L and 200L drums locally manufactured (probably Phase II) (vi) R&D on alternative drum designs and business development studies (local drum 	<ul style="list-style-type: none"> 42,000 new 200L drums imported by end of PY2. At least one design for a locally-manufactured alternative drum successfully developed and field tested by the end of PY3. Options for local manufacture 	<ul style="list-style-type: none"> AWPBs. Six-monthly Progress Reports. R&D reports. 	<ul style="list-style-type: none"> An adequate number of new drums can be imported, for a reasonable price No serious importation difficulties/delays - GoTL is able to facilitate drum import and clearance

Results Hierarchy	Indicators	Means of Verification	Assumptions
manufacture) completed	assessed, private sector partner/s identified, and business development plan completed by the end PY3.		<ul style="list-style-type: none"> No major technical difficulties with local drum manufacture. Funds for expanded local drum manufacturing businesses are available.
Output 2: Maize storage drums distributed and used effectively: (vii) Target HHs identified and organized (viii) Drum distribution plans prepared (ix) Drums distributed, and co-contributions collected (x) Drum use promoted and farmers trained (xi) Drum distribution through private sector piloted (xii) Drums distributed through NGO network	<ul style="list-style-type: none"> 23,000 poorer maize-growing HHs identified, provided with drums and trained in drum use. Drums being fully utilized for maize storage. Drum use guidelines being closely followed by most HHs. Five drum agents in district markets identified and trained, by end PY2. 500 drums sold by drum agents by end PY3. 10% of purchased drums distributed through NGOs (year by year) *No. of HHs receiving Project services. 	<ul style="list-style-type: none"> AWPBs. Six-monthly Progress Reports. Drum use monitoring program reports. Participatory Impact Assessments. 	<ul style="list-style-type: none"> Use of local government and community structures, and staff, to assist with drum targeting and distribution is efficient. Transport infrastructure and services are maintained at a level sufficient to allow timely shipment of drums from Dili to target Sucos. Required number of suitably qualified District Coordinators and Project Facilitators can be recruited. Suitable mechanism for safely depositing drum co-payments can be identified.
Output 3: Efficient Project management and coordination: (iv) PMU established and operational (v) DCOs established and operational (vi) M&E system designed and operational	<ul style="list-style-type: none"> PMU and DCOs established and operational. Implementation on schedule. Implementation performance and outcomes being regularly assessed. IFAD satisfied with results. Other stakeholders (communities, partner NGOs, district government) satisfied with results. 	<ul style="list-style-type: none"> Annual Reports. M&E reports. Supervision Mission Reports Project Completion Report. Participatory Impact Assessments. 	<ul style="list-style-type: none"> Adequate resources are allocated to Project management and M&E in timely fashion. Strong partnerships between Project contractor, IFAD and MoF can be developed

* Denotes mandatory RIMS indicators.

II. Key File Table 2: Rural Poverty and Agricultural/ Rural Sector Issues - Related to Maize Storage

Priority Areas	Affected Group	Major Issues	Actions Needed
Large maize storage losses	Poor upland maize farmers	<ul style="list-style-type: none"> Majority of upland farmers use traditional maize storage systems (above kitchen fires and in trees) which result in significant losses, and therefore prolonged periods of hunger – the “hungry season” Use of drums for maize storage, and the benefits, are understood by farmers, but maize-growing households lack financial means to purchase fully-priced grain storage drums in the market Supply of used 200L fuel drums (which can be cleaned and used to store maize) is very limited Farmers often sell maize at low prices (immediately after harvest) because they do not have reliable storage options; which leads to low cash incomes and zero or very limited opportunities for small livestock raising <i>Weak agricultural extension system to encourage maize-growers to improve their on-farm maize storage systems (not the focus of TLMSP)</i> 	<ul style="list-style-type: none"> Introduce and supply a technically feasible, socially acceptable, and affordable (with subsidies) on-farm maize storage system which is more efficient than traditional storage systems, i.e. supply large numbers of 200L new drums to maize-growing households, and charge a small co-payment (\$10/drum) to recover some costs and encourage appropriate drum usage. Promote awareness of maize storage drum technology (and benefits) through training to improve knowledge of maize storage practices, drum use/ maintenance, and maize drying techniques. Emphasize women’s participation. Provide drums for full-priced sale in local markets, and use local NGO networks to distribute drums in non-Project areas Encourage manufacture of grain-storage containers in Timor-Leste by providing R&D funding to emerging private sector businesses
Subsistence agricultural production systems	Poor upland maize farmers	<ul style="list-style-type: none"> Farmers are risk averse (non-acceptance of improved, higher-yielding varieties) because they know post-harvest losses will be high due to rodents and weevils This means that households are not benefiting from the complementarity between higher-yielding maize varieties (Sele) and improved on-farm maize storage – estimated to be a 70% net increase in maize production: 1.00 Mt/ha increase to 1.5Mt/ha with drums and Sele; and declines to 0.88 Mt/ha without either (grow 1.00 Mt and lose 0.12 Mt during storage). Very limited access to agricultural inputs (seed and maize shellers) 	<ul style="list-style-type: none"> Foster complementary partnerships with project promoting improved seed varieties (Seeds of Life) and train farmers in the reliability of drums to store increased yields of maize safely on-farm Provide maize shellers to counter-balance increased workloads because of higher productivity and need to shell all maize cobs before storage

III. Key File Table 3: Organizational Capabilities Matrix

176. Key File Table 3 is an Organization Capabilities Matrix which summarizes the strengths, weaknesses and opportunities associated with the main organizations, and associated projects/ programmes, which will have a role in the implementation of TLMSP.

Organization	Strengths	Weaknesses	Opportunities/Threats	Remarks
Enablers (implementation partners)				
<i>District and Sub-District Governments, specifically District and Sub-District Administrators and possibly Community Development Officers</i>	<ul style="list-style-type: none"> • Good district-level outreach to poor rural households • Understand the main agricultural development issues and opportunities in their districts • Most district GoTL staff have been in their positions for some time and therefore know “what works and what doesn’t” in their areas 	<ul style="list-style-type: none"> • Limited operational budgets • District-level support staff from line ministries, e.g. MAF, are under-resourced and lack experience with rural development projects 	<ul style="list-style-type: none"> • Not sure when decentralization will be finalized - now delayed until after 2011 election – if finalized after the election, the District and Sub-District Administrators may not have sufficient time to assist with implementation 	<ul style="list-style-type: none"> • The TLMSP design “tested” the proposed Project implementation methodology (use of district governments) for drum distribution) and received unanimous endorsement from all levels
<i>Local Government (suco and aldeia), specifically Suco Chief and Aldeia Chefs, and Suco Council members</i>	<ul style="list-style-type: none"> • Very good local outreach to poor rural constituents (farming households) at the suco and aldeia levels • Experienced with organizing rural communities for local projects and self-help activities • Experienced with the implementation of GoTL village-level support programmes, including pensions, support for the chronically poor, etc. • Very good knowledge of local farming systems, and demarcation between maize- and rice-growing areas, therefore will be able to assist with the final targeting 	<ul style="list-style-type: none"> • Very limited operational budgets, meaning that TLMSP will need to fund any additional community organization activities (including drum delivery) 	<ul style="list-style-type: none"> • A chance of “rent capture” by the elite; in terms of inequitable distribution of drums to recipient families • But, very good opportunities to use this tested and proven conduit through which to implement TLMSP 	<ul style="list-style-type: none"> • The TLMSP design “tested” the proposed Project implementation methodology (support from local governments structures for drum distribution) and received unanimous endorsement

Organization	Strengths	Weaknesses	Opportunities/Threats	Remarks
	<p>exercise</p> <ul style="list-style-type: none"> Aware of individual household poverty levels and therefore can assist with finalization of drum recipient lists 			
<i>Timor-Leste's upland maize-growing rural communities (the target)</i>	<ul style="list-style-type: none"> Aware of the use of 200L drums for on-farm maize storage and some families are already experienced with this simple technology; there is a huge demand for drums in the target communities 	<ul style="list-style-type: none"> Some households are very isolated and therefore will be difficult to contact About 25% of households are too poor to be considered as TLMSP targets – these households can only be assisted with direct GoTL hand-outs and financial support 	<ul style="list-style-type: none"> Some target households may encounter problems in raising the \$10/drum co-contribution – but informal village-level lending systems and expanding micro-credit projects should be able to assist in this regard The raised this possible issue with interviewed households and all advised that they would be able to pay the co-contribution, provided they had sufficient prior notice of drum delivery 	<ul style="list-style-type: none"> The Project's target group is ready and receptive for assistance in the form of drums for on-farm maize storage; and planned community organization and awareness raising activities will reinforce this positive development environment
<i>Ministry of Agriculture and Fisheries (MAF) (informal arrangement at the suco level, and through the Food Security Unit FSU)</i>	<ul style="list-style-type: none"> MAF has about 400 SEOs based in the rural sucos, and one of their appointment criteria was that they had to be from a suco, and speak the local dialect MAF's FSU is responsible for suco-level monitoring of food supplies and therefore will benefit from receipt of the Project's data on quantities of maize stored in drums 	<ul style="list-style-type: none"> Limited operational budget for SOEs and particularly the FSU, but MAF receives considerable bilateral budget support including from the forthcoming RDP IV 	<ul style="list-style-type: none"> The Project may be able to work informally with MAF's SOEs during drum delivery, support and monitoring, provided they receive direct support from RDP IV The Project's monitoring data on village-level food supplies (specifically maize) will be of use to MAF's FSU, and to the national Food Security Monitoring Committee 	<ul style="list-style-type: none"> The TLMSP has been deliberately designed so that implementation success is not dependent on drum delivery by MAF's SEOs, or on monitoring by the FSU However there will be an informal arrangement between the Project and MAF's staff, and the FSU, with the objective of informal cooperation and capacity building
<i>Ministry of Finance (MoF) (IFAD's high-level signatory to the grant agreement)</i>	<ul style="list-style-type: none"> MoF's Vice Minister responsible for rural development has a good understanding of the sector's issues and constraints Considerable experience with 	<ul style="list-style-type: none"> MoF does not have an "official" mandate to implement rural development projects, but is seen as a reliable conduit through which funds can be channelled 	<ul style="list-style-type: none"> It may prove difficult for TLMSP to manage fund distribution and management through MoF 	<ul style="list-style-type: none"> The consideration of MoF as IFAD's TLMSP financial partner is a "compromise" because the particular characteristics of TLMSP mean that the Project is not

Organization	Strengths	Weaknesses	Opportunities/Threats	Remarks
	<p>the delivery and monitoring of international aid projects – through the Office of Aide Effectiveness</p> <ul style="list-style-type: none"> MoF is assisted by numerous international advisers under the Planning and Financial Management Capacity Building Programme (PFMCBP) and therefore internationally-acceptable financial control and management systems are in use 			<p>suitable for implementation through any of GoTL's line agencies</p> <ul style="list-style-type: none"> Hence the recommendation that implementation be contracted out to an NGO or local company
Service Providers:				
<i>Drum importers/ assemblers</i>	<ul style="list-style-type: none"> Importers are experienced through working with Drums on Farms, and Care's LIFT Project Strengths of drum assemblers less clear, but businesses such as East Timor Roofing should have the capability if technology proved feasible and has been imported 	<ul style="list-style-type: none"> New drum freight costs (CIF Dili) are very high due to small ships and container use, lack of back-loading opportunities 	<ul style="list-style-type: none"> International supply of new 200L drums is limited Investigation reveals that it is not possible to import 200L drums in knock-down form, and then assemble in Timor-Leste, and therefore the Project will have to import intact drums at higher unit costs 	<ul style="list-style-type: none"> Experience from Care and Drums on Farms has proven that the approach to drum importation by TLMSP is feasible and should be achievable
<i>Drums manufacturers</i>	<ul style="list-style-type: none"> Once the technology is proven, it should be possible to manufacture drums in Timor-Leste which are cost-competitive 	<ul style="list-style-type: none"> There are no drum manufacturers in Timor-Leste at present, but East Timor Roofing has released prototype 100 and 200L corrugated iron drums for testing by Drums on Farms 	<ul style="list-style-type: none"> There are good opportunities for TLMSP to support East Timor Roofing with R&D funds to enable the business to develop into a national drum manufacturing company 	<ul style="list-style-type: none"> East Timor Roofing has a modern and well-run factory in Baucau, and therefore scale-up to a national business should be possible and feasible, with some R&D support from TLMSP
<i>Transport companies</i>	<ul style="list-style-type: none"> Numerous small trucks (4 and 8 Mt capacity) are available for hire in Dili and district centres 	<ul style="list-style-type: none"> Impossible for large trucks (greater than 10 Mt capacity) to reach district and suco centres due to road conditions 	<ul style="list-style-type: none"> Local road conditions are often so bad that delivery of drums could be difficult However, the Project should be able to time deliveries with periods when roads are trafficable 	<ul style="list-style-type: none"> It is possible that Timor-Leste's road rehabilitation projects will commence before TLDFM, thereby improving drum delivery logistics and reducing delivery costs
Key Associated Projects/				

Organization	Strengths	Weaknesses	Opportunities/Threats	Remarks
Programmes:				
<i>Seeds of Life III</i>	<ul style="list-style-type: none"> Well established Programme and about to enter Phase III (national coverage) Has excellent and reliable data on on-farm crop production and storage, and has, in the past, focused on maize variety selection on yield and weevil resistance With TLMSP this focus can change to higher-yielding but non-weevil tolerant varieties Has an excellent network of cooperating maize farmers Has identified and multiplied improved food crop varieties for all major crops, including the maize variety Sele, which when grown under traditional swidden system produces a 50% increase in yield. 	<ul style="list-style-type: none"> Embedded in MAF and therefore very reliant on MAF's operating budget for some aspects of Programme delivery 	<ul style="list-style-type: none"> The supply of Sele is currently limited by the Programme's ability to bulk-up large tonnages of maize under small-scale farming systems in Timor-Leste 	<ul style="list-style-type: none"> Seeds of Life III has the potential to be TLMSP's most important development partner because of strong complementarity between the use of Sele maize variety and improved on-farm maize storage systems These two projects could well be the "circuit breaker" required to kick-start increased maize production in Timor-Leste – higher yields and better storage!
<i>Drums on Farms</i>	<ul style="list-style-type: none"> Focuses on one issue – maize losses under traditional storage methods, with very good outreach to poor upland maize farmers in Liquica Very experienced with the delivery of 200L used fuel drums to maize-growing families, and therefore a good source of lessons learned for TLMSP Good monitoring records and therefore very good understanding of drum impacts Project Facilitator has considerable and valuable experience which can be used 	<ul style="list-style-type: none"> Very small and therefore has no experience of large-scale drum procurement and distribution – only distributes drums when they become available from Mission Aviation, or are donated from Australia 	<ul style="list-style-type: none"> Could be one of the NGOs selected by TLMSP for drum distribution through existing NGO networks Good source of on-farm drum impact results which can be compared with results from TLMSP 	<ul style="list-style-type: none"> Although a small and focused NGO, Drums on Farms has an excellent track record from which TLDF can learn valuable lessons – in terms of targeting, drum delivery, drum use and maintenance, etc. Has proven the simple and focused technology on which TLMSP is based

Organization	Strengths	Weaknesses	Opportunities/Threats	Remarks
	by TLMSP when formulating drum delivery and support programmes			
<i>Local Initiatives for Food Security Transformation Project (LIFT) - funded by Care International</i>	<ul style="list-style-type: none"> • Very good outreach to poor upland maize-growing communities • Most experienced drum distributor in Timor-Leste (6,000 200L used fuel drums distributed in 2010) • Established good professional business relationships with international drum suppliers, and local importers and expeditors • Very experienced local Project Facilitators who have formed good working relations with MAF's SEOs • Very good community-level monitoring of drum impacts • Good understanding of how maize storage drums fit into the broader agricultural development scenario at village level 		<ul style="list-style-type: none"> • Almost certainly one of the NNGOs to be selected by TLMSP for drum distribution through existing NGO networks • Good source of on-farm drum impact results which can be compared with results from TLMSP 	<ul style="list-style-type: none"> • Care has proven the simple and focused technology on which TLMSP is based, and is the leader in this field, but with limited financial capacity and no national distribution network
<i>Rural Development Programme IV</i>	<ul style="list-style-type: none"> • The main objective of the agricultural component of RDP IV is to provide nation-wide support in the form of technical and extension methodology training for MAF's SEOs • If target areas coincide it should be possible for TLMSP to work with the SOEs, but not rely on their presence and interest for the key drum distribution activity 	<ul style="list-style-type: none"> • RDP IV will depend on MAF's operational budget to make the SOEs effective, at a time when MAF's budget is under downwards pressure 	<ul style="list-style-type: none"> • Provided the SOEs are resourced from non-TLMSP sources, there is a good opportunity for these MAF staff to learn community organization and support skills from TLMSP's Project Facilitators as they deliver drums • Such cooperation should provide MAF with valuable information on food availability 	<ul style="list-style-type: none"> • The design of TLMSP is not predicated on MAF's SOEs being available and resourced to provide a drum delivery mechanism

IV. Key File Table 4: Complementary Donor Initiatives and Partnership Potential

a. SUMMARY

177. The tables below list eight complementary donor initiatives with partnership potential for TLMSP. They also list other planned or on-going rural development initiatives which have the same broad objectives as TLMSP – improved food security and reduced rural poverty.

178. The most important complementary donor initiatives are: (i) Seeds of Life Phase III, an AusAID- and Australian Centre for International Agricultural Research (ACIAR) funded project which identifies, multiplies and distributes seeds and planting material of Timor-Leste's main food crops, and is considered to be one of the most successful agricultural development projects in Timor-Leste; (ii) Drums on Farms, a small local NGO which has been distributing used 200L aviation fuel drums to maize growing families in Liquica District; (iii) CARE's Local Initiatives for Food Security Transformation Project (LIFT) which is European Commission (EC) funded and distributed 6,000 used 200L fuel drums in 2010 for seed and grain storage; and (iv) Rural Development Programme IV (RDP IV) which is funded by the EC and plans to support the Ministry of Agriculture and Fishery's (MAF's) Suco Extension Officers (SEOs) who will have informal roles in the delivery of drums under TLMSP to recipient households, plus (if available and independently resourced) the provision of post-delivery support.

179. Other related but less important projects include: (i) the Reduction of Post Harvest Losses Project (NZAid - implemented by FAO) which supports local blacksmiths to manufacture grain storage silos of various sizes for national distribution (Working Paper 3 contains a review of this project and concludes that the silo-based technology is not suitable for small-scale on-farm maize storage); (ii) Rural Development in Liquica Project (AECID) (Spanish Aid), which is distributing small numbers of used 200L fuel drums; (iii) PADRTL's (Portuguese aid) Rural Development Programme in Aileu, Bobonaro, Covalima, Ermera, Manufahi and Liquica Districts also distributes small numbers of 200L drums for grain storage; and (iv) the Covalima-Oecusse Participation and Empowerment for Livelihood Improvement and Food Security Enhancement Programme (EC-funded and implemented by Oxfam), which is distributing small number of drums for maize storage.

b. LIST OF KEY COMPLEMENTARY PROJECTS AND PROGRAMMES

1. Project title: Seeds of Life Programme (SoL) (Phase III)		
Coverage: National	Budget: US\$27.5 million	Duration: 2011 - 2015
<p><u>Description:</u> By the end of Phase III Seeds of Life aims to have laid the foundations of a national seed system for Timor-Leste which is capable of providing a high level of access to seed of improved varieties to farmers throughout the country. Within this vision it is expected that: (i) MAF will be managing an adaptive research programme that is regularly identifying and releasing improved varieties; (ii) MAF is managing formal seed production and processing activities at an appropriate scale; (iii) MAF is effectively distributing formal seed in a manner that maximises scale-up benefits; (iv) informal seed production and distribution is stimulated nation-wide through the establishment of Community Seed Production Groups; and (v) MAF is actively and effectively managing overall development of the national seed system for Timor-Leste.</p> <p><u>Complementarity with TLMSP:</u> There is a strong and logical complementarity between TLMSP and SoL III because once on-farm maize storage is improved (to prevent weevil damage) it will be logical for SoL to select and promote improved maize varieties on the basis of yield and taste alone, rather than factoring in weevil tolerance as a selection criterion. Furthermore it is expected that the combination of TLMSP and SoL III will result in a fundamental change in TL's farmers' attitude to upland maize production because the adoption of key but simple technologies provided by the two Projects will enable farmers to grow more maize (with Sele) and to store more maize (with drums). The provision of drums in combination with Sele seed will be a "circuit-breaker" for Timor-Leste's maize growers as their crop storage risks will be over-come through the use of drums. The outcome from this unique combination of simple and proven technologies will enable farmers to change their crop production behaviour which will result in a possible 70% increase</p>		

in maize production by adopting households.

2. Project title: Drums on Farms – a local NGO

Coverage: Liquica.	Budget: Very limited – maybe \$50,000 per year	Duration: Ongoing
<p><u>Description:</u> Drums on Farms is a local NGO which distributes used 200L aviation fuel drums to maize-growing households in Liquica. To-date, about 400 drums have been distributed to families who are willing to pay a co-contribution of \$10 per drum. The NGO's Facilitator reports a large and unsatisfied demand for drums.</p> <p><u>Complementarity with TLMSP:</u> This NGO can provide good implementation lessons for TLMSP, including: (i) the importance of careful targeting and gender consideration when selecting recipient households; (ii) the need to concentrate efforts in areas where maize is the major cereal crop; (iii) how to train households in drum use and maintenance; and (iv) the importance of pre-drum delivery community organization.</p>		

3. Project title: Local Initiatives for Food Security Transformation Project (LIFT) (EC-funded and implemented by CARE)

Coverage: Bobonaro and Liquica	Budget: US\$2.0 million	Duration: 2007-11 extended
<p><u>Description:</u> Aims to improve food security and strengthen the resilience of 3,000 farming households in two western districts of Timor-Leste (Liquica and Bobonaro) thereby contributing to GoTL's food security policy. This is the successful seed production model which SoL III intends to use and scale-up for its community seed production groups (CSPGs) which use 200L fuel drums as maize seed stores. CARE's drum distribution programme (they imported 6,000 drums in 2010) is, at present, the largest in Timor-Leste and is achieving excellent and sustainable results.</p> <p><u>Complementarity with TLMSP:</u> No specific complementarity, but TLMSP can learn many valuable lessons from this very successful Project – as for Drums on Farms.</p>		

4. Project title: Rural Development Programme, Phase IV (EC-funded and implemented by GTZ and PADRTL, commencing in late 2011)

Coverage: various districts depending on whether the focus is rural roads or agricultural extension	Budget: About US\$55.0 million for rural roads and agricultural extension (US\$ 8.0 million for the latter)	Duration: 20011 - 2016
<p><u>Description:</u> The Project focuses on strengthening agricultural extension services at all levels within MAF; and rehabilitation of rural and access roads.</p> <p><u>Complementarity with TLMSP:</u> RDP IV intends to support MAF's Suco Extension Officers with training in extension methodology and technical topics, with the objective of improving the ministry's services to Timor-Leste's rural communities. The Project will place international experts in districts who will assist the SEO's to prepare work plans, organize farmer field days and training events, and monitor progress. Although TLMSP will not work directly through MAF's SEOs the intention is to informally involve these staff when the Project's Facilitators are working at the suco level with potential drum recipients, so that once drums have been distributed the SEOs will be able to continue with some follow-up training in drum use and maintenance, and possibly assist with Participatory Impact Monitoring. Note however that TLDPM will not provide operational budget for MAF's SOEs and therefore they will be reliant on RDP IV's and MAF's budget to cover the cost of their field activities.</p>		

5. Project title: Reductions of post harvest losses (NZAid - implemented by FAO)

Coverage: National	Budget: US\$0.6 million	Duration: 2008-2009
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Description: The Project aims to assist GoTL to improve food security by reducing post harvest losses and improving household storage capacities, and is based on the introduction of simple post-harvest technology, improved grain storage technology, and the establishment of local grain storage silo production capacity. The Project supports local blacksmiths to manufacture various sized silos for grain storage, and small hand-tools. FAO has completed an internal review of the Project's achievements but this does not contain any assessment of the impact on poor households, nor does the Design Document contain a Logframe with targets and indicators against which to measure progress and impact.

The TLMSP visited many households who had purchased silos and not one was using silos to store maize, because of previous losses due to weevil damage (the silos are not airtight and therefore do not prevent weevil infestation). In addition the Project suffered from attempting to achieve two development initiatives at the same time: (i) support for local businesses to manufacture silos and hand-tools, and (ii) non-targeted (pro-poor) sales of silos to grain growers. Many of the larger silos are now used as water containers, especially around Baucau.

The TLMSP decided not to base the Project on FAO's technology because: (i) the silo technology does not suit poor upland maize producers; (ii) there is no chance of longer-term sustainability as local blacksmiths will always have to rely on subsidized materials (sheet iron); and (iii) the proven 200L fuel drum technology is much simpler, well-understood and in considerable demand – see Working Paper 3 for a detailed review of this Project.

Complementarity with TLMSP: The was informed by NZAid that the Agency would not be funding further phases of this Project, at least until New Zealand has completed a new strategic development plan for Timor-Leste.

6. Project title: Rural Development in Liquica Project (AECID) (Spanish Aid)

Coverage: Liquica	Budget: US\$1.7 million	Duration: 2008 - 2010
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Description: Project will focus on food security, which includes the distribution of 200L used fuel drums for seed and food storage – with a focus on maize as this is the most important cereal crop on Liquica.

Complementarity with TLMSP: Limited, but the Project does distributed small numbers of used 200L fuel drums to its target families and therefore could produce lessons which are useful to TLMSP.

7. Project title: Rural Development Programme (PADRTL)

Coverage: Aileu, Bobonaro, Covalima, Ermera, Manufahi and Liquiça.	Budget: US\$1.2 million	Duration: 2008-10; 2011-13
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Description: Focuses on community-based nurseries, agro-forestry, coffee and other permanent cash crops (cashew, coconut, clove, and high value forest trees) and agricultural extension services. PADRTL is also distributing 200L fuel drums in their target areas, but the Programme is limited by the availability of drums.

Complementarity with TLMSP: Limited, but the Project distributes small numbers of used 200L fuel drums to its target families and therefore could produce lessons which are useful to TLMSP.

8. Project title: Covalima-Oecusse Participation and Empowerment for Livelihood Improvement and Food Security Enhancement Programme (EC-funded and implemented by Oxfam)

Coverage: Covalima and Oecusse	Budget: US\$2 million	Duration: 2007-11
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Description: The project aims to support the empowerment of 3,000 households in Covalima and Oecusse Districts to increase food security; and to improve, diversify, sustain and replicate strategies for more secure livelihoods. This Programme is also distributing 200L drums to target families

Complementarity with TLMSP: Limited, but the Project does distribute small numbers of used 200L fuel drums to its target families and therefore could produce lessons

which are useful to TLMSP.

c. LIST OF OTHER RELATED PROJETS AND PROGRAMMES

9. <u>Project title</u> : From Hunger To Health: Strengthening Community Capacity And Resilience For Food Security in Oecusse (EC-funded and World Neighbours implemented)		
Coverage: Oecusse	Budget: US\$1.5 million	Duration: 2007-11
<u>Description</u> : Aim is to reduce rural poverty and increase food security for 18,000 people in upland, rural communities in Oecusse. Also aims to improve the ability of local government and civil society organisations to support community-based and pro-poor initiatives.		
8. <u>Project title</u> : Options for Food Security Transformation - Lautem and Manufahi (EC-funded and implemented by Concern)		
Coverage: Lautem and Manufahi	Budget: US\$1.9 million	Duration: 2007-11
<u>Description</u> : Aims to contribute to the achievement of Timor-Leste's poverty reduction target through increased opportunities for 3,000 rural households to achieve secure and sustainable livelihoods by 2010.		
9. <u>Project title</u> : Attaining Food Security Through Improved Agricultural Production System Among Dry Upland and Coastal Communities in Timor-Leste (EC-funded and implemented by CCF)		
Coverage: Manatuto and Lautem	Budget: US\$1.1 million	Duration: 2007-11
<u>Description</u> : Aims at poverty reduction for 20,000 indigenous farmers living in the dry and vulnerable uplands and coastal areas in Manatuto and Lautem Districts.		
10. <u>Project title</u> : Agricultural Productivity Improvement Project (APIP) (World Bank)		
Coverage: National	Budget: US\$ not known – but could be US\$50 million over 20 years	Duration: Not known, but needs to extend over at least 10 years
<u>Description</u> : Still at concept stage, based on increasing the productivity of all of Timor-Leste's main agricultural products (crops and livestock). Concept is to develop a national extension program based on training and resourcing MAF's fledgling agricultural extension service, and ensuring coordination between all development partners engaged in the agricultural sector		
11. <u>Project title</u> : Timor Economic Rehabilitation and Development Project (USAID)		
Coverage: Dili, Liquica, Aileu, Ermera, Covalima, Manufahi, Oecusse, Baucau, Bobonaro.	Budget: US\$17.5 million	Duration: 2002-10
<u>Description</u> : NCBA. The aim is to build on previous success with coffee to diversify the income sources of Cooperative Café Timor (CCT) members to include livestock, vanilla, cloves, agro-forestry products, etc. Also includes the Private Sector Development Project which focuses on coffee rehabilitation, agricultural diversification and market chain development		

12. <u>Project title:</u> Irrigation and Rice Cultivation Project in Manatuto (JICA)		
Coverage: Manatuto	Budget: US\$9.1 million for construction and US\$2.8 for water-user's associations	Duration: 2005-10
<u>Description:</u> Following construction of the Laclo Irrigation Scheme (US\$9.1 million), the Project aims develop the capacity of the water users' associations and increase rice productivity.		
13. <u>Project title:</u> Project for Rehabilitation and Improvement of Maliana I Irrigation System (JICA)		
Coverage: Bobonaro	Budget: US\$6.6 million	Duration: 2008-2009 - Completed
<u>Description:</u> Rehabilitation of Maliana I Irrigation System to cover about 1,000ha in Maliana area, in Bobonaro District.		
14. <u>Project title:</u> Initiative on Soaring Food Prices (FAO)		
Coverage: National	Budget: US\$1.2 million	Duration: 2008-10
<u>Description:</u> Aim is to boost agricultural domestic food production during the main and second agriculture seasons by providing quality inputs (seeds, fertilizer, silos, and post-harvest machinery).		
15. <u>Project title:</u> Post crisis rehabilitation of food security and livelihoods of most vulnerable population in the district of Baucau (Spanish Co-operation – implemented by FAO)		
Coverage: Baucau	Budget: US\$1.5 million	Duration: 2009-2011
<u>Description:</u> The project will contribute to enhancing food security, nutritional status and rural incomes amongst rural communities in Baucau District through improved crop seed varieties, storage silos for post harvest loss reduction, use of rehabilitated irrigation sites, home garden and small scale livestock raising, and group formation for rural participation in sustainable development of the agricultural sector. The Project will target, in particular, communities around the Seisal river valley and close-by upland communities.		
16. <u>Project title:</u> Support to Coffee Growers (JICA)		
Coverage: Maubisse	Budget: US\$ not known	Duration: 2009-12
<u>Description:</u> Aim is to expand co-operatives, improve coffee production and diversify into other crops.		
17. <u>Project title:</u> Livestock Development Project (ACIAR) - planned		
Coverage: Not decided	Budget: US\$1.1 million	Duration: 2011 - 2014
<u>Description:</u> Adaptive research into cattle and pig nutrition and management under Timor-Leste conditions. Expected to test production systems developed in NTT and Eastern Indonesia under similar projects. SoL commenced as a small Project like the proposed Livestock Development Project and eventually evolved into a national Program, so there are some expectations for a similar outcome for the latter.		
19. <u>Project title:</u> Bio-Security Strengthening Project (AusAID – FAO implemented)		
Coverage: National with focus on western border	Budget:	Duration:

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	US\$3.8 million	2008 - 2010
<u>Description:</u> Focuses on prevention and control of avian influenza and other epizootic diseases, and more broadly is assisting MAF to develop its quarantine procedures and regulations to facilitate trade with Indonesia. This includes the construction of an international standard laboratory in Dili, plus operational training.		
20. <u>Project title:</u> Rural Development Program, Phase II (EC-funded and GTZ implemented)		
Coverage: Bobonaro, Covalima	Budget: US\$19.4 million	Duration: 2006 – 2010 + extension
<u>Description:</u> The Project focuses on agricultural extension services, agribusiness and rural roads.		
21. <u>Project title:</u> Rural Development Program, Phase III (EC-funded and implemented by Landell Mills)		
Coverage: Manufahi	Budget: US\$8.0 million	Duration: 2009 - 2014
<u>Description:</u> The Project focuses on agricultural extension services, agribusiness and rural roads, and is embedded in MAF's district office.		
23. <u>Project title:</u> Promoting Rural Development Project (GTZ-funded and implemented)		
Coverage: Baucau	Budget: US\$5.9 million	Duration: 2006 – 2011
<u>Description:</u> Initially this was a food security and disaster response Project which evolved into a general agricultural development project – with a focus on irrigated rice and agri-business.		
24. <u>Project title:</u> Community-Based Watershed Management Planning Project (JICA-funded and implemented)		
Coverage: Comoro and Lacleo watersheds	Budget: US\$2.4 million	Duration: 2005 - 2010
<u>Description:</u> Watershed management (development) Project.		
25. <u>Project title:</u> One Village, One Product Project (JICA funded)		
Coverage: not known	Budget: US\$1.9 million	Duration: 2008 - 2010
<u>Description:</u> Promotion of concept that villages specialise in certain products (one only).		
26. <u>Project title:</u> Promoting Sustainable Food and Nutrition Security in Timor-Leste Project (MDG/F-funded and FAO, UNICEF, WFP and WHO-implemented)		
Coverage: Not known	Budget: US\$4.0 million	Duration: 2010 - 2012
<u>Description:</u> Aims to increase the sustainable production of food crops in some of Timor-Leste's poorest rural areas.		
27. <u>Project title:</u> Sustainable Land Management Project (GEF- and UNDP-funded/UNDP implemented)		
Coverage: Not know – thought to be generic planning rather than action in districts	Budget: US\$0.5 million	Duration: 2007 - 2010
<u>Description:</u> Details not available		

V.Key File Table 5: Target Groups Priority Needs and Project Proposals

Typology	Poverty Levels And Causes	Coping Actions	Priority Needs	Project Response
<p>“Economically active poor”; defined by TLMSP as approx. 75% of all households in target districts, less 10% of households excluded by Project selection criteria; therefore 65% of all households in target districts are target households, including approx 7% female-headed households</p>	<p><u>Poverty Levels</u></p> <ul style="list-style-type: none"> • Severe poverty, 41% of households below official poverty line in 2009 • Rural poverty worse than urban poverty; 52% compared with 45% • Upland maize-growing households worse off than lowland rice growers • Strong linkage between types of crops grown and levels of poverty • On average rural households suffer three months with insufficient rice or maize <p><u>Causes of Upland Poverty</u></p> <ul style="list-style-type: none"> • High post-harvest losses of maize and rice, “guestimated at 30% and 15%, but not validated (TLMSP used a conservative 12% maize losses) • Shallow and infertile soils, and rapidly deteriorating environmental conditions • Erratic rainfall, localised flooding, and strong winds which damage crops • Family labour constraints (mainly for weeding) • Until the recent release of improved food crop varieties (SoL) a continued reliance on traditional varieties • Very poor road access to inputs, services and markets • Years of civil unrest which have lead to an under-mining of trust 	<ul style="list-style-type: none"> • Reduce number of daily meals, and reduce food intake per meal, first adults then children • Rely on tubers (cassava, sweet potatoes, taro and <i>kontas</i>) and wild forest foods • Purchase staple crops (rice and maize) if cash is available • Sell vegetables and/or livestock to buy subsidized rice (if available) or maize, at very high prices • Sell agricultural labour to other households in nearby areas to earn cash • Gain off-farm employment with an NGO, or through GoTL’s labor-intensive infrastructure development projects • Borrow food or cash from extended family members or other farming households 	<ul style="list-style-type: none"> • Reduce the post-harvest losses of maize resulting from traditional storage methods which do not protect grain against rodents or weevils • <i>(Also a need to reduce post-harvest losses or rice (but this crop will not be targeted by TLMSP)</i> • Access to improved maize storage techniques and equipment at affordable prices by upland farmers • Develop maize storage kills to effectively use improved facilities • Improved access to agricultural inputs (improved seed varieties and maize shellers) 	<ul style="list-style-type: none"> • Import 200L maize storage drums (knock-down form or intact, depending on feasibility) • Provide R&D funding and support for businesses to develop financially viable local drum manufacturing plants • Appoint & train Project Facilitators (PFs) in community organization and drum delivery/ use, target and prepare households for drum delivery, and prepare district, sub-district, suco and aldeia drum delivery and distribution plans • Distribute drums (and ancillary equipment) and collect recipients’ co-contribution, and train and support drum use and management (by PFs) • Pilot drum distribution through selected agents in district markets • Distribute drums through selected NGO networks • Establish and operate national PMU, appoint: Project Manager Financial Officer, Procurement/ Logistic Officer, Post-Harvest Storage Specialist, District Coordinators and Deputy District Coordinators • Complete baseline and follow-up household surveys on maize storage losses, periodic assessments of on-farm maize storage practices, and periodic assessments of drum use

VI. Key File Table 6: Stakeholder Matrix/ Project Actors and Roles

Component	Activity	Coverage	Institutions Involved	Potential Contractors/ Periodic Inputs	Other Possible Partners in Execution
1. Purchase and/or manufacture of 200L maize storage drums	<ul style="list-style-type: none"> Determine if feasible to import 200L drums in knock-down form, with assembly in Dili. If feasible use this approach, if not import intact drums Depending on (i), import drums in one form or another through Dili-based importers Inspect and clear drums on delivery or after assembly, and deliver to storage yard in Dili prior to distribution Provide R&D funding and support for businesses to develop financially viable local drum manufacturing plants – for the next phase 	<ul style="list-style-type: none"> Drums - Dili port and storage yard Dili - drum assembly (if feasible) R&D – probably in Baucau and Dili for in-factory drum manufacture, then in selected (un-named) sucos for testing 	<ul style="list-style-type: none"> MoF (drum financing) Port Authority (drum clearance, etc.) Post-Harvest Storage Specialist (R&D) Possibly UNTL for contracted drum research 	<ul style="list-style-type: none"> Drum importers and expeditors (un-named, could be Oceano) Local transport companies (truck drums to Dili drum storage yard) Drum assemblers in Dili if feasible East Timor (un-named) Roofing (Baucau) and un-named roofing company in Dili – for drum R&D 	<ul style="list-style-type: none"> Possibly Drums on Farms and LIFT – could participate in joint drum purchase orders Drums on Farms and LIFT (in-field testing of drum prototypes) If drum assembly is feasible, could be an un-named manufacturing business in Dili
2. Distribution of 200L maize storage drums to recipient households	<ul style="list-style-type: none"> Appointment and training of Project Facilitators (PFs) for community organization and drum delivery/ use Target and prepare households for drum delivery Prepare district, sub-district, suco and aldeia drum delivery and distribution plans Distribute drums (and ancillary equipment) and collect recipients' co-contribution Train and support drum 	<ul style="list-style-type: none"> Target districts: Aileu, (Year 1), Manufahi and Manatuto (Year 2), and Ainaro and Viqueque Districts (Year 3) Target suco and aldeia within target districts – to be determined Markets in target districts (sale through 	<ul style="list-style-type: none"> Ministry of State Administration (informally) through District and Sub-District Administrators and Community Development Officers MAF (informally) – SOEs would be involved if available, and resourced from other sources Local communities – through Suco and Aldeia Chiefs 	<ul style="list-style-type: none"> Specialist trainers in community organization and facilitation – for DCs, DDCs and PFs Local transport companies (truck drums from Dili to sub-districts) 	<ul style="list-style-type: none"> Un-named community-based organizations – assist with drum distribution Local merchants – trial sale of drums at commercial price Un-named NGOs and INGOs – cooperation for drum distribution in non-Project districts

Component	Activity	Coverage	Institutions Involved	Potential Contractors/ Periodic Inputs	Other Possible Partners in Execution
	use and management (by PFs) <ul style="list-style-type: none"> • Pilot drum distribution through selected agents in district markets • Distribute drums through selected NGO networks 	agents) <ul style="list-style-type: none"> • Non-target districts served by cooperating NGOs 			
3. Project management and coordination	<ul style="list-style-type: none"> • Establish and operate national PMU in Dili • Appoint: Project Manager (Intl) Financial Officer (National), Procurement/ Logistic Officer (National), Post-Harvest Storage Specialist (ST), and national support staff • Appoint and train District Coordinators and Deputy District Coordinators • Complete baseline and follow-up household surveys on maize storage losses • Complete periodic assessments of on-farm maize storage practices • Complete periodic assessments of drum use 	<ul style="list-style-type: none"> • PMU in Dili • DCOs in target districts • Target sucos (base-line study and follow-up M&E) 	<ul style="list-style-type: none"> • Ministry of State Administration (informally) through District and Sub-District Administrators and Community Development Officers • MAF (informally) – SOEs would be involved if available, and resourced from other sources; and through FSU and NFSC • Local communities – through Suco and Aldeia Chiefs • Post-Harvest Storage Specialist (M&E) 	<ul style="list-style-type: none"> • Specialist trainers in community organization and facilitation – for PMU and DCO staff • Possible contracted M&E surveys and analysis 	

ANNEX 14: SCALING-UP THE TIMOR-LESTE MAIZE STORAGE PROJECT

See front of this volume for a set of abbreviations and acronyms for the Project Design Report and all Annexes

1. Scaling-up Idea

What	The Timor-Leste Maize Storage Project (TLMSP) is expected to be scaled-up after the end of Phase I in about December 2014. Phase II will be implemented in the seven districts which are not involved in Phase I, and in those sub-districts in the five Phase I districts which were not fully covered during Phase I, with a continued focus on upland, rainfed maize growing areas and possibly an expansion into the storage of other staple foods. In addition there may be a slight expansion in the scope of Phase II to encompass some simple “add-ons”, for example maize processing equipment and the use of surplus grain for small scale animal feeding.
Whose idea	Ministry of Agriculture and Fisheries (MAF), working with IFAD.
Pilots / tests / evaluations	Phase I is based on proven technology - Care International and a local NGO (“Drums on Farms”) have demonstrated that the use of 200L airtight drums to store maize at the household level is feasible and practical, and ready for widespread adoption. The main constraint is simply a shortage of suitable storage containers which prevent weevil damage to stored maize. By the end of Phase I it is expected that local private sector businesses will have established in-country drum/ storage container manufacturing facilities which are capable of responding to growing demand for this simple technology. Pilots using locally-manufactured drums are already underway but at present the product is not price-competitive. This should change with increased scale and further investigation of alternative technologies. However, in the meantime (Phase I) the simple and proven approach of using new 200L fuel drums will be used.

2. Vision

Achievements	<p>Phase I of TLMSP is expected to assist 23,000 maize-growing households in five districts with about 42,000 200L maize storage drums. It is expected that households will have the following additional maize for consumption: (i) 1 drum/hh, 27kg; (ii) 2 drums/hh, 54 kg; and (iii) 3 drums/hh, 81 kg. Corresponding cash flows (reduced food purchases) are expected to be \$19, \$38 and \$57 per hh, respectively.</p> <p>Household FIRR are expected to be more than 80% for all drum models. Phase I of the Project will generate an additional 1,710 Mt of maize annually which will have some, albeit small, impact on Timor-Leste’s food deficit situation – the deficit in 2010 is estimated to be about 85,000 Mt.</p>
Vision	<p>The ultimate vision (Prime Minister’s recently released Strategic Development Plan [SDP], July 2011) is for Timor-Leste to be self-sufficient in staple food (rice, maize, roots and tubers). TLMSP’s longer term objective (Phase II and maybe a Phase III) is to reduce the losses of maize stored on-farm to almost zero, compared with current losses of about 15%, and possibly as high as 25%.</p> <p>About 100,000 farm families grow maize in Timor-Leste and even though there has been a recent change in food consumption patterns following the distribution of subsidized rice, the bulk of the country’s rural communities remain very dependent on maize as their main staple and has important ceremonial and cultural functions. Providing maize storage facilities (200L drums) to 100,000 families will take some time (this will be a huge procurement/ logistical exercise) but the experience from Phase I should enable a major scale-up into subsequent phases, with the longer-term objective (vision) of satisfying the national demand for maize storage containers – roughly</p>

	estimated to be 600,000 units (3/hh) if surpluses are to be stored and sold into high-priced cash markets or used for animal feeding.
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3. Drivers

Leadership	<p>MAF has released a draft National On-farm Storage Policy for Maize and Paddy (rice). This document states (in part): “<i>development partners cooperate in the procurement and distribution of adequate airtight containers (drums) to securely store stock of seeds and food, in combination with the provision of seed of higher-yielding varieties</i>”.</p> <p>Clearly, therefore it will be MAF which takes leadership over the scaling-up of TLMSP to a truly national project which supports all maize-growing families in the country.</p> <p>In addition, as Timor-Leste focuses more on childhood nutrition (possibly through school-feeding programmes) it would be logical for the Ministries of Health and Education to become involved with the next phases, and for the Ministry of Tourism, Commerce and Industry (the main importer of food [rice]) to also be involved. Coordination of their involvement in the next phase/s would probably be through a strengthened National Food Security Unit.</p>
Champions	<p>Suco Councils and Chiefs, and Aldeia Chiefs, who would gain considerable political “recognition” by assisting their constituents to solve a wide-spread and poverty-inducing problem – post-harvest losses of maize.</p> <p>In addition, and as a result of R&D support during Phase I, it is expected that private entrepreneurs who manufacture small grain storage containers in Timor-Leste would also be prepared to champion subsequent phases.</p>
External catalysts	<p>The main “external catalysts” which would support subsequent phases would be: (i) ongoing rural poverty – currently 41% of the nation lives in poverty and the figure for rural communities is much higher (70% in 2008); (ii) the national objective of becoming staple food self-sufficient by 2020; and (iii) the need to create employment for youth in rural districts – through more small-scale value-adding (of surplus maize) and in the longer-term more intensive agricultural production systems.</p>
Incentives	<p>One of the main incentives would be reduced Government of Timor-Leste (GoTL) expenditure on food imports, and the cost of storing and distributing subsidized food to isolated rural communities. At the farm-level, the main two incentives would be increased supplies of staple food, eventually followed by increased farm incomes.</p> <p>In addition GoTL recognizes the importance of creating jobs in rural areas, as about 40% of youth are currently unemployed. In the longer-term it is expected that the manufacture of grain storage containers in-country will result in local economic development, and employment creation.</p>

4. Spaces

Political space	<p>The concept of addressing on-farm maize storage losses by distributing 200L airtight drums is already well-supported within MAF (see above) and by local community leaders (Suco and Aldeia Chiefs) who would continue to play important roles in the identification of target beneficiaries and the distribution of drums to qualifying families. In addition, GoTL’s local government officials (District and Sub-district Administrators) also support the recommended approach to reducing post-harvest losses of maize. And finally, TLMSP has the full support of the Prime Minister as the Project will contribute towards one of his key national objectives (as specified in the Strategic Development Plan) – staple food self-sufficiency.</p>
Policy space	<p>The required policy space is reflected in: (i) The Prime Minister’s SDP (food self-sufficiency); (ii) MAF’s draft National On-farm Storage Policy for Maize and Paddy; and (iii) recent additional support (from the European Commission) for MAF’s Food</p>

	<p>Security Unit and the National Food Security Council (the latter comprise representatives from all ministries which have a role in food/ nutrition/ health/ etc.)</p> <p>In addition, the SDP focuses on the development of entrepreneurial rural businesses to encourage local trade and increase employment. TLMSP will support this policy, initially in Phase I through the R&D programme in Component 1 which is expected to identify and support local grain storage manufacturers, and then in subsequent phases which are expected to be based on full-scale manufacture of a range of food and seed storage containers in Timor-Leste.</p>
Natural resource space	As designed, TLMSP is environmentally neutral and subsequent phases are expected to be the same – no impact at all on Timor-Leste's rural environment.
Learning space	<p>There is already considerable experience with the use of 200L used fuel drums to store maize (and other foods) in Timor-Leste, from Indonesian times and more recently following the distribution of drums by Care International, Drums-on Farms and other NGOs which focus on food security. The technology is very simple and drums do not require any maintenance. Therefore there is no real need for any learning space in terms of the promotion of a new technology to very poor and often illiterate farmers.</p> <p>However, as designed TLMSP Phase I contains carefully prescribed community development and training steps to ensure that target beneficiaries know how to use their drums. Similarly, there is no need for any learning space for the community leaders who will play important roles in drum distribution, with one possible exception – equitable distribution of drums to the most needy, including female-headed households</p> <p>The other area where some learning space will be required is within Timor-Leste's emerging private sector businesses – these will require ongoing assistance to develop the manufacturing, distribution and financial management skills required for Phases II and III to be able to depend on locally-manufactured grain storage containers.</p>
Institutional & organizational space	<p>A strong Project Steering Committee (PSC) with membership from all relevant stakeholders, and key institutions and various levels of government will develop institutional and organizational space during Phase I. By working through MAF's National Agriculture and Horticulture Directorate (NDA&H) – specifically within the Post Harvest and Management Division – and through MAF's District Offices down to the Suco Extension Officer level, the Project will progressively build the institutional and organizational space required for follow-on phases. In addition, MAF's finance and procurement staff will benefit from working with the Project's Finance Officer and Procurement/ Logistics Officer staff in the Project Management Unit.</p> <p>Partnerships with other rural development projects/ programmes, and rural road maintenance projects, during Phase I will build space for strengthened complementarity between TLMSP and related projects/ programmes such as Seeds of Life (AusAID/ ACIAR-funded and expected to have a third phase, commencing in 2016) and the Rural Development Programmes (European Commission-funded and expected to continue for some time).</p>
Cultural space	This is already well-developed - all rural families who grow maize in Timor-Leste are very aware of the losses caused by weevil attack when grain is stored traditional ways. And there are no cultural reasons why poor maize-growing families do not want to store their food in 200L drums – many older family members remember the Indonesian times when this form of food storage was commonly used and resulted in reduced periods of acute hunger.
Financial/ fiscal space	Phase I will be funded through a grant from IFAD to GoTL ⁸⁵ on the basis that Timor-Leste is struggling to reach its MDGs, even though the country has a rapidly growing

⁸⁵ GoTL will forgo import duties and sales tax on imported goods and pay all salaries of non-direct hire Project staff.

	oil/ gas-based economy with DGP growth set to reach 11% in 2011. By the time Phase II commences (in about 2015) it is expected that the implementation of Timor-Leste's SDP will be well underway with massive increases in line Ministry budgets, including MAF's. Therefore it is not unreasonable to predict that the financial/ fiscal space will have also increased by this time and to therefore assume that a reasonable proportion of the cost of the subsequent phases of TLMSP would be funded by GOTL, through MAF.
Partnership space	<p>Phase I will be funded by an IFAD grant. AusAID has expressed unofficial interest in co-financing follow-on phases, but this option remains open for negotiations. And by the time Phase II commences there could well be other development partners seeking some form of co-financing agreement, particularly as the Agriculture SDP calls for improved donor cooperation and a tighter focus on core issues and constraints, such as on-farm food storage.</p> <p>During Phase I it is expected that TLMSP will form a strong and complementary partnership with Seeds of Life, in particular, as this relationship has the potential to increase maize production by a net 70% - a 40% increase in yield using new varieties and a saving of 15% of the increased yield. Such a high level of complementarity warrants a joint national programme to extend improved varieties and better on-farm storage across all maize-growing areas.</p>

5. Pathways

Which pathways?	<p>The pathway designed for Phase I (working through GoTL's Ministries of State Administration and Territorial Management [MSA&TM] – from the district- to the suco-level) with MAF having a coordinating role) will be the basis for implementation of Phases II and III. Depending on progress and outcomes in Phase I, MAF could assume direct and full responsibility for drum procurement and distribution, rather than the direct Project-appointed staff for Phase I. Phases II and III will be huge procurement and logistics exercises, but by the time Phase II commences there should be adequate and relevant experience in MAF's Finance and Procurement Divisions, and the system of drum delivery through local government structures should be well tested and adjusted if necessary.</p> <p>The other major pathway which will be required for Phases II and III is through the private sector for the in-country manufacture of maize storage drums and other food storage containers. Phase I will focus on developing this pathway and it is already apparent (August 2011) that some innovative local ideas are emerging in terms of how to manufacture huge numbers of cost-effective grain storage containers.</p>
Time horizon	Phase II – five years; and Phase III five year (2015 – 2025)
Role of drivers and spaces	Successful scaling-up of TLMSP to a national-level Project will require the four key drivers to “take advantage” of the already well-established spaces. The current spaces are already conducive to an expansion of TLMSP and will be even better-developed by the end of Phase I when it is expected that implementation of the SDP will be well under-way, thereby overcoming some of the constraints which might potentially impact on the success of subsequent phase, such as poor access due to un-trafficable rural roads. The key drivers should be able to find ways to link the district-level institutions (e.g. local business associations, private sector actors including service providers, marketers, etc.) effectively to local government structures to result in a sustainable development intervention.
Obstacles and risks	The main obstacles and risks which might impact on Phase II and III are those which also have the potential to reduce the effectiveness and impact of Phase I. There are two “generic” risks: (i) maintenance of peace and order during <u>and after</u> the forthcoming elections in mid-2012; and (ii) an inconsistent agricultural development policy which concentrates resources on the irrigation sector to the detriment of the much larger rainfed sector (in terms of rural population) where most of Timor-Leste's

	maize is grown. The Project-specific risks (see Table 1 in the Main Report) are not considered to be serious in the longer-term (Phases II and III).
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6. IFAD's role

IFAD's specific role	<p>IFAD will be required to: (i) provide ongoing support to the drivers, both through TLMSP and possibly other more specific capacity-building exercises (perhaps in partnership with the World Bank which has requested informal cooperation as a training provider in Phase I); (ii) provide financial and technical support for the scaling up process; and (iii) through the planned development partner and GoTL coordination activities in Phase I, be a key factor in helping to maintain momentum and focus. In addition, IFAD's engagement in policy dialogue with GoTL should ensure that country and sector strategies are appropriate for the scaling-up of TLMSP.</p> <p>In addition it will be important for IFAD to keep a close watch on four key "triggers" which should be applied when assessing whether a second phase is justified. These are: (i) the targeting mechanisms used for Phase I (designed to ensure that the distribution of subsidized drums is tightly targeted towards poorer households, and are gender neutral) are working effectively; (ii) the anticipated reduction in maize storage losses, and resulting financial benefits at household level, are being realized; (iii) design/s for locally-manufactured drums which are technically, financially and socially acceptable have been developed, and fully field-tested; and (iv) financially viable option/s for local drum manufacture have been developed and costed, with clear identification of sustainable business partner/s.</p>
Support from IFAD's policies, procedures, etc.	<p>IFAD's role is consistent with IFAD's mission as stated in its Strategic Framework 2007-2010 <i>"We encourage innovation and test new approaches. We work with governments and other partners to learn from experience, and replicate and scale up successes"</i>.</p>

ANNEX 15: COMMENTS ON SUBSIDIES

I. Introduction

180. *This annex has been prepared in response to the Wrap-up Note for June/ July QA Session and responds the “Proposed Framework for Assessment”. The following framework of questions has been used to assess grant schemes which aim to address market failure.*

Fundamental questions about market failure

1. *Is there indeed a market failure?*

For the Timor-Leste Maize Storage Project (TLMSP) the market failure is for one simple good – 200 L airtight drums for on-farm maize storage to prevent losses due to pests. Whilst there are a few old used petroleum drums available in local markets, and upland maize growers are very aware of the benefits from the use of drums for maize storage, the major constraint to more wide-spread use of drums is a simple lack of supply. A few fortunate villages had access to drums during the Indonesian times, but generally speaking there has been complete market failure for this good because of: (i) lack of domestic supply; (ii) inability to manufacture locally (at least at financially and economically attractive prices); (iii) target households’ state of poverty (upland maize growers in Timor-Leste are the poorest sector of rural society); and (iv) an entrenched “hand-out” mentality which has been exacerbated by the Government of Timor-Leste’s (GoTL’s) post-conflict approach to “kick-starting” economic growth and distributing petroleum wealth around the Nation through “cash hand-outs”.

2. *Would a grant scheme deal most effectively with the underlying problem of market failure? Does it compensate for, reduce, or eliminate market failure that discourages private investment and sales? Perhaps regulation or provision of public goods, such as information, are more cost-effective than grants?*

In the case of TLMSP a partial grant scheme (the Project will fund about 80% [\$40] of the unit cost of a drum [delivered farm-gate] and beneficiaries will pay the remaining 20% [\$10]) has been selected as the way to deal with the underlying problem of market failure. This approach will at least reduce market failure which discourages private investment. Given the objective of increased on-farm supplies of the most important staple food in Timor-Leste, regulations or the provision of public goods (such as information) would not be anywhere near as effective or cost-competitive as the subsidized provision of 200L airtight drums. Note too that the design includes activities which will support the development of the country’s fledgling private sector (see the R&D activities in Component 1). The intention is for a gradual transition; from one of about 80% grant funding to less than about 20% as incomes increase and maize growers can afford to purchase their own drums.

Costs and Benefits

3. *Do the benefits of intervention outweigh the costs? This poses the need for a cost-benefit analysis. Often the implementation costs for the public and private sectors are high and the benefits uncertain. For delivery of social services, some assessment of cost-effectiveness analysis is needed. What are the likely dynamic rewards of solving the purported market failures? Are there unintended and perhaps undesirable side-effects of the proposed grant scheme? Grants may cause market distortion and unfair competition. What is the optimal amount of grants that can be given per investment, per applicant and per area?*

Yes, the benefits of the intervention do outweigh the costs. Key financial results include:

- Reduced storage losses amount to 27.0 kg/drum/year, valued at around \$19/drum. For a household with two drums this represents an increase in household cash income of 19% -38%
- Investment in drums for storage generates a FIRR of 56%, with the full cost of the drum/s accounted for. This demonstrates that it should be possible for farmers to purchase additional

drums, provided they can save (or borrow the required capital) against their incremental cash-flows.

- Year 1 cash-flow (after financing) is positive for all models, i.e. beneficiaries are able to pay \$10/drum, which would be more than covered by the value of their reduced storage losses in the first year.

Including both primary and secondary benefits streams, the Project has the capacity to generate an EIRR of 16%.

In terms of the dynamic rewards for solving the failure of the markets for drums, these are likely to be, in the longer-term, the establishment of a financially viable grain storage container manufacturing industry in Timor-Leste, with support from TLMSP. Eventually Timor-Leste will need about 400,000 200L drums and it is expected that the private sector will provide the majority of these once the manufacturing industry is established in-country – with Project assistance.

There are no unintended and undesirable side-effects from the proposed subsidy scheme. The Project will not “compete” with private sector drum suppliers because they do not exist in Timor-Leste. Note however that there is one established roofing business which is capable of manufacturing 200L drums out of corrugated iron, but at prices which are (at present) 2.5 times the cost of importation.

The subsidy will not cause market distortion and unfair competition as, at present there are no markets for large numbers of drums (a few second-hand drums are sold in district markets). And note the Project’s objective to develop, through the R&D activities, a local drum manufacturing industry by the beginning of Phase II – in about four years.

The level of subsidy per applicant (target household) is shown in the table in Appendix 1.

Implementation modalities

4. *What is the best design of the grant scheme? Should it intervene on the demand side or on the supply side? Different modes of implementation may greatly affect effectiveness and efficiency of grants schemes, depending on market situations and specific targets that are pursued.*

TLMSP is based on a very simple design – the initial importation and distribution of 200L airtight drums for on-farm maize storage. In terms of the design of the subsidy scheme – this is based on simple pre-drum delivery agreements with target households - that they are prepared to pay a contribution of \$10 per drum. This payment is to be made in cash at the time of delivery – there will be no credit given. This approach was very thoroughly during the design process and did not encounter one family which reported that they would not be prepared to make such a contribution – in fact some families mentioned that they would be prepared to pay up to \$20 per drum.

Clearly the intervention is on the supply side – there are simply not sufficient 200L drums in Timor-Leste to satisfy the demand.

There are no other options in terms of different modes of implementation – the only way to distribute drums is through the existing local government and local community structures (District and Sub-district Administrators, Suco Councils, and Suco and Aldeia Chiefs) as these structures and associated staffing are designed to deliver goods and services to isolated rural communities. It would be illogical and expensive to, in some way, replicate an existing distribution system which is tried and prove. Finally, as there are no markets at the suco-level, there are currently no commercial conduits through which drums might be distributed, particularly to those poor families who live in remote and isolated areas.

5. *What are the eligibility criteria? Who are eligible for receiving grants, eligible for what and for how much? Do all eligible parties have a fair and equal access to the grants? Or, are, in fact, only some social strata effectively supported? Equity requirements may be costly to meet.*

The eligibility criteria which will guide Suco Councils and Project Facilitators when compiling and subsequently verifying the list of eligible drum recipient households are: (i) the household relies on maize as its staple crop ; (ii) the household’s maize production levels are sufficient to warrant the use of subsidized drums for maize storage (approximately 150kg/year); (iii) the household

does not have two or more usable, airtight drums (if the household has already one drum it will only be eligible for one more drum); (iv) the household expresses demand for one or two 200L maize storage drums and is willing to pay a co-contribution of \$10/drum; and (v) the household's socio-economic situation can be described as follows: (a) average housing conditions (i.e. semi-solid house); (b) food insecure during the "hungry season"; (c) restricted access to key public services (markets, roads, and information) due to remote and/or isolated dwelling; (d) no major source of cash income; and (e) no ownership of major assets such as a car, extensive land holdings, or a large number of livestock.

Eligible households are described in the above para, as is the Project's approach to ensuring fair and equal access to subsidies. The design recognizes the importance of assisting female-headed households. However, not all social strata will be assisted because of the Project's strong focus is on the upland rainfed maize growers who are the poorest sector of Timor-Leste's rural sector. There is a deliberate strategy not to target the richer farmers – see the above definition of acceptable socio-economic conditions.

Entry requirements are not costly - \$10 per drum, up to a maximum of \$20 for two drums per target household.

6. *Is the capacity to implement the scheme sufficient? Effective and efficient implementation of grant schemes should not be taken for granted. Government and private sector capabilities for implementation and governance may be poor, and expatriate expertise too expensive. Does the expected future use of grants schemes warrant relevant capacity building?*

The design of TLMSP recognizes that the capacity of the Ministry of Agriculture and Fisheries (MAF) to procure and distribute about 42,000 drums in three years is some-what limited, hence the inclusion of a Project Management Unit in the recommended management structure. In addition, the local- (district and sub-district) and community-level governments do not have the capacity or resources (particularly transport facilities) for the distribution of drums to remote maize-growing communities – hence the inclusion in the design of Project-appointed District and Deputy District Coordinators, and Project Facilitators. Note that all Project staff (with the exception of the long-term Project Manager and the short-term Post Harvest Storage Specialist), will be Timorese Nationals.

In terms of the expected future use of subsidies (reduced in subsequent phases) and the need for capacity building during Phase I, it is expected that by the time Phase II commences, the private sector in Timor-Leste should have developed to the point where it will be capable of providing the drums required, and the local and community government system will be sufficiently robust (following decentralization) that this drum distribution system will be able to operate with limited support. In addition, as a result of Phase I it is expected that the demand for drums will grow quickly – to the point where the private sector has responded with local manufacture and delivery into district markets for sale by entrepreneurs.

7. *Are transparency and accountability sufficiently planned? This is essential for good governance.*

Yes – see the prescribed step-by-step activities to be completed by the Project's field staff. These cover the need for transparency and accountability and are based on accepted good governance practices for the delivery of goods to constituents in Timor-Leste. These steps are:

1. Meeting with District Administrator and Team: The drum delivery process will start with an introductory meeting at the district level between: (i) the DA and his/ her team; (ii) MAF's District Director (DDZ) and his/ her team (Food Production and Food Security, and Post-Harvest Management Officers); and (iii) Project Staff – the PM, the DC and the DDC. The agenda will cover: (a) presentation of a Project outline; (b) identification of sub-districts (and if possible sucos) which are suitable for intervention; and (c) miscellaneous – organizing space

- for drum storage in the district centre, setting-up office space (rented or in MAF's District Office, depending on the specific district), and a supporting letter.
2. Meeting at Sub-District Level with Suco Chief: After the district-level meeting, a follow up meeting will be held in each sub-district with the Sub-District Administrator (SDA) and his/ her team, Project Staff (DC, DDC and PFs), Suco Chiefs, Community Development Officer (CDO) (if available) and representatives from NGOs and Community-Based Organizations (CBOs). The meeting will discuss: (a) introduction and presentation of the Project; (b) identification of sucos (and if possible aldeias) which are suitable for intervention; and (c) distribution of initial promotional materials to Suco Chiefs.
 3. Meeting at Suco-Level with Suco Council Members: PF's will then hold an introductory meeting with members of the Suco Council and stakeholders such as NGOs, CBOs, and MAF's Suco Extension Officers (SEOs) if available. The meeting will discuss: (a) introduction and presentation of the Project; (b) explanation of criteria to be used to compile lists of households who are eligible to receive subsidized maize storage drums, stressing the importance of including female-headed households; and (c) distribution of promotional material to the Suco Council. After the meeting the PF will work on the additional tasks of: (a) collation and finalization of target lists (eligible households), after one week; and (b) preparation of a socialization event.
 4. Socialization Event – Suco/Aldeia Level: The objective of this event will be to promote drum usage (including the provision of information on the advantages of drums, financial contributions, verification and delivery mechanisms, and household selection criteria). To avoid misunderstandings, the PFs will need to clearly explain the eligibility criteria to potential beneficiaries. In addition, the PFs will provide advice on food security and child nutrition.
 5. Verification process – Aldeia/Household Level: The objective of this process is to double-check and verify the list of eligible households, and to hand out tickets (required to collect drums) to recipient households. This task will be carried out by the PF with assistance from a volunteer (Suco and/ or Aldeia Chief and/ or his/her representative). After the verification process has been completed the PF will prepare a drum delivery plan and schedule with the DC, and schedule drum delivery in close cooperation with Suco Councils, and the Procurement /Logistics Officer (P/LO) in the PMU. A minimum of two weeks' notice will be given in advance of drum delivery to the Suco Council so that the Chief or his/ her representative can organize recipient households for drum collection.
 6. Drum Delivery Day – Suco Level, (with possible prior transport of drums to the Suco): The objectives of drum delivery day are: (a) to distribute drums to selected recipients against the entitlement tickets which were previously issued; (b) collection of co-contributions of \$10 per drum; and (c) announcement of a forthcoming drum use training day. This event will be organized by two PFs and the DC/DDC, or a third PF, and be attended by drum recipients and Suco Council members. An additional task after drum delivery will be to organize a drum use training day in coordination with the Suco and Aldeia Chiefs, plus follow-up on the food security situation and household nutrition status.
 7. Drum Usage Training Day – Suco or Aldeia Level (depending on number of recipients): The objective of the drum use training day is to explain/ demonstrate how to use drums to store maize. Training will include proper maize drying and storage techniques. The training will be carried out by the PFs with participation by: (a) the Chief of the relevant Aldeia; (b) SEOs (if available); (c) representatives from CBOs (if available); (d) representatives from the relevant Suco Council; (e) drum recipients; and (f) a representative from SoL (if possible). The day will also be used to run refresher courses on food security and household nutrition.

Appendix 1: Amount and Share of Subsidization

Funding window	Av. project size (\$) a/	Beneficiary share b/	Beneficiary amount (\$) c/	Number of beneficiaries d/	Amount per person (\$) e/
<i>Individual hh level</i>	<i>1 hh</i>	<i>20%</i>	<i>\$10</i>	<i>23,000 hh</i>	<i>\$1.67/ drum</i>

- a/ Based on individual hhs.*
- b/ Households contribute \$10 per 200L drum.*
- c/ 20% of the estimated farm-gate price of one drum.*
- d/ Total number of Phase I beneficiaries.*
- e/ Based on an average of six persons per hh, and one drum per hh. This figure would double for hhs who purchased two drums.*