



USAID | **EAST TIMOR**
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Dezenvolve Setor Privadu

**Quarterly Report
1 January 2008 – 30 March 2008**

30 April 2008

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Abbreviations

AATL	Accounting Association of Timor-Leste
AEMTL	Associação Empresarial das Mulheres de Timor-Leste (Business Woman's Association of Timor-Leste)
ATCTL	Associação de Transportes dos Camioes de Timor-Leste (Transportation Truckers Association)
ATTL	Association of Tourism, Timor-Leste
DAI	Development Alternatives, Inc.
DSP	USAID Dezenolve Setor Privadu Project
FAR	Federal Aquisition Regulation
FETL	Forum dos Empresarios de Timor-Leste
Ha	Hectare
ICFSJ	Sentru Internacional ba Jornalistas
IFC	International Finance Corporation
Kg	Kilogram
MT	Metric Ton
MAFF	Government of Timor-Leste Ministry of Agriculture, Forestry and Fisheries
MSME	Micro, small to medium sized enterprise
SGP	USAID Small Grants Program
STTA	Short-termed Technical Assistance
USAID	United States Agency for International Development
VCO	Virgin Coconut Oil
WFP	World Food Programme
WISE	Women in Economic Self Employment Program, funded by ILO

DEZENVOLVE SETOR PRIVADU

QUARTERLY REPORT JANUARY TO MAY 2008

Summary

In January to March 2008 DSP continued its work in several areas that define DSP's program of work through 2010, including a substantially increased focus on increasing incomes and stimulating business activities in rural areas. This report covers activities undertaken during the second quarter under the DSP Year Three Work Plan approved by USAID in August 2007.

Successes

Significant actions during the quarter include:

- DSP provided market access for 47 MSMEs by linking them to the market opportunities, including assistance to Acelda in becoming a bottler and distributor of village-produced, virgin coconut oil traded under the brand name Minutil. In March, Acelda delivered 215 bottles of Minutil Virgin Coconut Oil to six Dili retail stores.
- DSP supported 94 new upland farmers to plant 54 ha of wet season mungbean crop in Fohorem, Tilomar and Suai Kota. Linking these farmers to Suai commodity traders resulted in the sale/purchase of 9.2 MT of mungbeans. This farm-gate sale differs from the usual transactions, which involve farmers taking small amounts of their own produce to market. Total mungbean production on these farms is estimated at 55 to 60 MT.
- Zero Star, DSP's horticulture wholesaler partner, completed construction of a cold storage facility in Dili which will enable larger volumes of produce to be procured without significant wastage risks.

Table 1: Impact and Results

Intended Impact	Results
Increased production and sales of horticulture produce to high-end buyers through farmer and private sector linkages	Fresh produce supplied to Dili supermarkets was 7.25 MT of graded product worth over \$3,038.
Increased production and sales of commodities through farmer and private sector linkages	Services and technical support provided to 570 farmers from 45 groups during this period, with 331 ha planted to date. Total of 5 sub-districts and 17 villages. Production of 54 ha of wet season mungbean crop by 94 new farmers organized in 10 groups.

<p>Increased production and sales of commodities continued...</p>	<p>Production of 62 ha of wet season peanut crop by 211 farmers (139 new) from 13 groups.</p> <p>DSP facilitated the direct sale of 9.2 MT of mungbeans to CARE and for export to West Timor, Indonesia.</p>
<p>Increased production and sales of coconut oil through farmer assistance and private sector linkages</p>	<p>Launched the new Minutil Virgin Coconut Oil brand under Acelda management in March. Sold 215 liters to Dili supermarkets.</p> <p>Brokered a contract between the Liquica virgin coconut oil production group and the Golden Star Restaurant in Dili.</p>
<p>Increased the number of enterprises accessing commercial services</p>	<p>Linked Zero Star to the accountancy of Haksolok Consulting Lda.</p> <p>DSP supported three local traders (Caracol, Comico Suai and Fini Esperanca) in mungbean trade activities, including linkages to institutional buyers (CARE) and an international trader (Timor Global).</p> <p>Provided Acelda inventory control training.</p>
<p>Continued strengthening to the Transportation Truckers Association</p>	<p>Linked the association to additional revenues of \$45,022 for the 35 members and 5 subcontractors. To date, DSP's support of the ATCTL has yielded \$551,504 in revenues from WFP contracts.</p>

Challenges

Program challenges include:

- Difficulty in accessing packaging and marketing materials to promote Timor-Leste products.
- Limited expertise of service providers, including survey institutes, in undertaking complex tasks without extraordinary involvement of project staff and consultants. We look forward to working with the new USAID funded, three-year Timor-Leste Research Development Project.
- Lack of agriculture inputs and services continues to be a major constraint to expansion. Quality seed supplied commercially or stored by farmers remains a major hurdle to expansion of agriculture and agribusiness. Without such materials, opportunities to respond to market demand cannot take place. Efforts to improve storage of seed at farmer and trader levels will help overcome this problem. Identification of improved seed and multiplication for distribution will

- have an even greater impact assuming the market exists. Tractors remain in short supply.
- Continued distortion of business conditions and disruption of supply chains due to the ongoing crisis in Timor-Leste. This was amplified by the attempted assassinations of both the President and Prime Minister of Timor-Leste on 11 February. This resulted in the government declaring a State of Emergency and a curfew that remained in effect through this reporting period. In addition, several internally displaced persons camps remain in place, almost two years after the May 2006 violence.

Progress on Program Activities

This section describes project activities during the period January – March 2008. The report is organized by program area as described in the USAID Dezenvolve Setor Privadu (DSP) Year Three Work Plan submitted to USAID/Timor-Leste on 31 August 2007.

AGRIBUSINESS

DSP supports income generation through improved business linkages within supply chains. Agribusiness initiatives focus on identifying markets and buyers for local agricultural goods; assisting producers to increase output, production efficiency, and quality based on buyer specifications; and strengthening business and supply chain management.

Significant actions for the January – March 2008 period include work in four general areas covering [1] assistance to the Zero Star Company; [2] activities in the Lequitura Special Horticultural Area; [3] support to farmers; and [4] commodity marketing support. Highlights from the quarter for each of the areas include:

Zero Star Company:

- Zero Star constructed of a cold storage facility in Dili to receive produce, sort, repack and store prior to delivery to clients. The majority of capital for this facility was provided by Zero Star. This facility will enable larger volumes of produce to be procured without significant wastage risks.
- Zero Star introduced a \$10 produce box targeted at individual households. This new marketing strategy will form the basis of a market expansion initiative focused on regular deliveries to individuals through common delivery points (e.g. offices) and restaurants.
- DSP reviewed the management systems and staff requirements of Zero Star, and developed a number of priority systems for effective supply chain planning and management.

Lequitura Special Horticultural Area:

- Production technology equipment supplied under the USAID Small Grants Program (SGP) grant to Zero Star was delivered to Lequitura in March. This was followed by the arrival of technicians and advisors from Joro PT to advise on site preparation and begin construction of the greenhouse, nursery, screen houses and tunnels.
- Construction of frames for three tunnels and one screen house was completed by the end of March, and construction of the greenhouse commenced.

Farmers Groups:

- DSP supported 10 farmers groups comprising of 94 new upland farmers to plant 54 ha of wet season mungbean crop in Fohorem, Tilomar and Suai Kota, with an

- DSP supported 13 farmers groups comprised of 211 lowland (139 new farmers) to plant 62 ha of wet season peanut crops, with estimated harvest of 53 MT of unshelled peanut at a conservative estimate of 900 kg per ha. This is valued between \$18,550 (\$0.35/kg) to \$26,500 (\$0.50/kg).

Commodity marketing support:

- DSP conducted a review of the 2007 dry season planting season with recommendations on strengthening the commodity value chain. The report is attached as Annex I to this report.
- DSP facilitated the direct sale of 9.2 MT of mungbeans. These sales were a result of trader farm visits facilitated by DSP, and discussions on possible trader roles in promoting production and marketing through seed storage, in-kind credit, farm visits and scheduled temporary markets at harvest time for aggregating product for transport.
- DSP Agribusiness Specialist, William Bere Ati, visited West Timor, Surabaya and Malang to investigate market opportunities for commodities, and also attended an Indonesia – Timor-Leste trade conference in Malang.

Progress by planned activity:

[1] Strengthen small-scale coconut oil enterprises in villages by introducing better technology, production techniques, and appropriate packaging

DSP has been working along the high value virgin coconut oil value chain since the launch of the project in 2005. During the last quarter the value chain developed from a community-based income generation project, to a commercial value chain with the Aelda company filling the role of wholesale buyer, bottler and retailer of virgin coconut oil under the brand name of Minutil. This marks a graduation of the program, and effective March 2008, DSP's activities along the coconut oil value chain will be lead by the Commercial Services team. Please find an update on DSP's progress in small scale coconut oil enterprises in the Commercial Services section of this report.

[2] Expand sales of fresh horticultural products, increase variety, and improve quality, targeting high-end institutional buyers

Objective: Develop local supply chain for high-end perishable horticulture products.

Progress: Progress was made in the horticulture initiative with a cold chain being established, production technology materials delivered on site, and sales continuing. Unfortunately, persistent heavy rains constrained new planting and destroyed crops, as well as delayed constructing the equipment. Two or three day breaks in the rain allowed the construction of tunnel and netting houses which are simple and faster than the

greenhouse. These are the first demonstration sites for new crops and their use resulted in the sale of leafy salad vegetables such as basil, cilantro and rocket which could be protected from the heavy rain.

Main points of interest include:

- DSP continued to facilitate agreements and deliveries of graded local product by Zero Star, DSP's horticulture wholesaler partner, to Dili supermarkets. A total of 12 deliveries were made during this quarter. The quantity delivered was over 7.25 MT of graded product worth over \$3,000.
- Seasonal difficulties of vegetable production in the wet season constrained expansion of the number and volume of produce during this quarter. This situation is likely to improve with the construction of the production technologies that protect against rain and pest damage, as well as the easing of rains.
- Zero Star continues to expand the variety of products (now more regularly including salad greens and herbs) on offer to clients. However the number of these products was reduced. Twenty different varieties of vegetables were supplied during this quarter, down from 26 in the last quarter.
- Zero Star constructed a small cold storage facility in Dili to receive produce, sort, repack and store prior to delivery to clients. This facility will enable larger volumes of produce to be procured without significant wastage risks.
- Zero Star introduced a \$10 produce box targeted at individual households. This new marketing strategy will form the basis of a market expansion initiative focused on regular deliveries to individuals through common delivery points (e.g. offices) and restaurants.
- Production technology equipment supplied under the SGP grant to Zero Star was delivered to Lequitura in March. This was supported by technicians and advisors from Joro PT who are providing technical assistance on site preparation and construction of the greenhouse, nursery, screen houses and tunnels.
- Construction of frames for three tunnels and one screen house was completed by the end of March, and construction of the greenhouse commenced.
- New production targets were set to meet anticipated market demand. Consistency of supply has been identified by supermarket buyers as a barrier to increasing volumes of sale. Sporadic supply of new product does not enable the supermarkets to foster a customer base that can be confident of being able to purchase these new products regularly. Increasing planting targets, i.e. more plantings, more often, will meet this stated market need for consistency of supply and allow for expanded marketing initiatives.
- DSP reviewed the management systems and staff requirements of Zero Star and have developed a number of priority systems for effective supply chain planning and management. Targeted assistance has been defined for the coming months.
- A total of 3,000 seeds consisting of 10 varieties of were planted in this quarter in Lequitura and Sarin. Due to heavy rains, pests and disease it is estimated that only 20% survived through transplanting.

Next Steps - Horticultural Supply Chain: Zero Star remains the key marketing link in the supply chain. DSP will work closely with Zero Star to promote the production of new varieties of products in at least four locations in the central region of Aileu and Ainaro. Emphasis will be placed on:

- increasing production following weeks of heavy rains in December/January that destroyed some crops and delayed new planting
- initiating production using new technologies/equipment supplied under the SGP grant, including the greenhouse
- strengthening the business management of Zero Star
- fostering new marketing initiatives to build demand for fresh products by adding to the number of clients.

[3] Expand production of cash crops for domestic and export markets

Objective: Increased production and sales of commodities through farmer and private sector linkages.

Progress: Significant progress was made with the commodities program in Covalima district through the wet season, with expansion into upland areas and a new crop with lowland producers, and strengthening of the trader linkages with producers. Wet season production of mungbeans and peanuts expanded the real number of participating farmers in the program from 337 to 570 farmers, and land area in production from 215 to 300 ha.

Table 2: DSP Assisted 2007 and 2008 Cash Crops in Suai

Production Cycle	District	Participating Farmers		Groups		Area		Sub-Districts	Villages	Farmer ¹ Produced	Traders ² Marketed
		Total	New	Total	New	Total	New				
Mungbean 2007 dry season	Suai	337	337	24	24	215	215	4	5	84	170
Mungbean 2007 wet season	Suai	94	94	10	10	54	54	3	10	Not harvested at this time.	Not harvested at this time.
Peanut 2007 wet season	Suai	211	139	13	11	62	31	5	13	Not harvested at this time.	Not harvested at this time.
Total		642	570	47	45	331	300			84	170

1. Quantities in MT produced by farmers who received seed and technical support.

2. Quantities in MT sold by district-level traders.

Main points of interest include:

- DSP supported 10 farmers groups comprised of 94 new upland farmers to plant 54 ha of wet season mungbean crop in Fohorem, Tilomar and Suai Kota, with estimated harvest of 59.4 MT (1.1 MT/ha) with farm gate value of between \$26,730 (\$0.45/kg) and \$32,076 (\$0.54/kg) depending if sold to local Suai traders or sold at the border.

- DSP supported 211 lowland farmers (139 new) organized in 13 groups to plant 62 ha of wet season peanut crop, with estimated harvest of 53 MT of unshelled peanut at a conservative estimate of 900kg per ha. This is valued between at \$18,550 (\$0.35/kg) to \$26,500 (\$0.50/kg).
- DSP facilitated the direct sale of 9.2 MT of mungbeans with buyers including CARE and traders from West Timor. These direct sales are not the usual mode of sales. In recent years farmers take one or two sacks to market in the district centers and are in a poor bargaining position as they are often forced to sell in order to raise cash for their return home. By contrast, the direct sales are 'farm gate' sales i.e. the purchaser visits each farm and the product is weighed on site. This approach is the result of trader farm visits facilitated by DSP, and discussions on possible trader roles in promoting production and marketing through seed storage, in-kind credit, farm visits and scheduled temporary markets at harvest time for aggregating product for transport. DSP also acquired mungbean seed stock from the growers who participated in the 2007 program and this will be used for expanding the program to new areas.
- DSP Agribusiness Specialist, William Bere Ati, visited West Timor, Surabaya and Malang to investigate market opportunities for commodities, and also attended an Indonesia – Timor-Leste trade conference in Malang. The Director of Comico, a Suai based trader, and two of the Comico staff members also attended this conference at their own expense. This also provided an excellent opportunity for networking and promotion of DSP activities as the Minister for Agriculture, Mariano Sabino, and Minister for Economic Development, Joao Goncalves attended along with senior government advisors such as Dr. Papitu Manteiro.
- DSP conducted a review the 2007 dry season planting season with recommendations on strengthening the commodity value chain.
- DSP conducted peanuts seed trials for local seed varieties and a new variety (Utamua/PT5 provided by Seeds of Life) in five locations in Holbolu, Dais, Sanfok, Fatuisin and Holpilat.
- DSP is testing the larger GrainPro bags and 5 MT cocoons for storage of seed returned from farmers. This seed will be held for redistribution for further dry season expansion in 2008.
- DSP, in association with the Seeds of Life, continues to monitor farmer seed storage using the GrainPro bags provided by the Ministry of Agriculture, Fisheries and Forestry (MAFF) and buckets to protect from rodents supplied by DSP. Initial monitoring reveals minimal seed damage from bruchids or weevils.

Next Steps – Expand Cash Crops: In addition to the 9.2 MT mungbean sales facilitated by DSP, project staff will focus on marketing peanuts harvested in Suai District and mungbeans harvested in Bobonaro District. The next quarter will also include work on the following areas:

- Support the farmer groups in Suai with harvest and post-harvest seed storage and marketing.
- Analyzing yields and monitoring of seed storage systems will be conducted by DSP in association with Seeds of Life.

- DSP will continue to facilitate visits by buyers to inspect production sites, send samples of peanuts to buyers in Indonesia, facilitate purchase agreements, and assist farmers to coordinate sales.
- Seed provided as in-kind credit will be returned to DSP. A revolving seed system may be established for the peanut seed.
- DSP will identify new farmers and new commodities (e.g. soybean) to expand production. DSP will also investigate potential to expand into new districts.
- Potential new seed varieties will be investigated together with buyers to prepare for further expansion and quality improvements for next growing season.

[6] Fisheries/Seafood Supply Chain:

No activities are planned to work on fisheries/seafood supply chain improvement at this time. We are concerned about the lack of entrepreneurs in the marketing of seafood and the ability to make any significant difference to the seafood supply chain in less than three years. Existing project resources are fully committed to other work and beginning work on a new supply chain would almost certainly have significant adverse consequences for existing activities.

COMMERCIAL SERVICES

DSP supports private sector growth by increasing access to technical and business services essential for efficient enterprise operation. In project year three DSP is focused on supporting the commercial success of project initiatives in agribusiness by placing a high priority on developing and strengthening business linkages, especially in the supply chain for agricultural products, and by creating market outlets for other Timorese products. Specifically DSP will:

1. Link businesses to commercial opportunities
2. Improve access to quality business services
3. Improve the quality of services that support the tourism (hospitality) sector
4. Improve accounting and bookkeeping skills and practices
5. Improve credit opportunities for MSMEs in productive sub-sectors

Significant actions made by the DSP commercial services team for the January – March 2008 period include:

- From 16 – 18 January, DSP conducted an inventory of Timorese products for sale in the high-end supermarkets.
- DSP expanded virgin coconut oil sales and production by:
 - supporting Acelda in delivering 215 bottles of Minutil Virgin Coconut Oil to six Dili retail stores on 7 March;
 - signing an memorandum of understanding with the International Labour Organization on 25 March to coordinate efforts to expand village-level virgin coconut oil production; and

- linking the Liquica virgin coconut oil producer group to a direct sales agreement with the Golden Star Restaurant in Dili.

Progress by planned activity:

[1] Link businesses to commercial opportunities

Objective: Link businesses to information, technology, and/or marketing to connect them to new or expanded growth opportunities.

Progress: During the quarter DSP provided market access for 47 MSMEs by linking them to the following market opportunities:

- **Promotion of Timorese Products** - DSP conducted an inventory and assessment of Timorese products being sold in Dili's high end markets. From 16 to 18 January DSP's Commercial Services Specialist and newly hired Product Promotions Specialist catalogued 25 local products found on store shelves. Of these 25, DSP identified 12 products that met a set standard of product and packaging envisioned for DSP's "Buy Timor First" promotional campaign.
- On 8 January DSP executed a memorandum of understanding with Acelda – a Timorese candlenut oil processing company - to assist Acelda in becoming a bottler and distributor of village produced, virgin coconut oil traded under the brand name Minutil. During the quarter DSP brokered sales agreements between Acelda and coconut oil producer groups and retailers, provided technical training to Acelda staff on the handling and bottling of the oil and assisted Acelda with marketing efforts. As a result of DSP assistance, on 7 March Acelda delivered 215 bottles of Minutil Virgin Coconut Oil to six Dili retail stores. DSP will continue its assist Acelda in building its relationship with the retail stores, and will provide promotional support to see a continued growth in sales.
- During the quarter the DSP conducted a training course on cost recording for the virgin coconut oil (VCO) producer groups DSP is working with in Liquica, Baucau and Viqueque. DSP also conducted an income mapping exercise that showed that in addition to the production of high quality virgin coconut oil, the groups are generating income from the sales of VCO production by-products (grade B coconut oil, shells, husks and pulp). During the training session of one of the producer groups in Baucau they highlighted that an increase demand for nuts by coconut traders was increasing prices from \$0.03 to \$0.05/nut. However, with the additional income generated from by-product sales the groups will be able to absorb this short termed market variation.

Table 3: VCO Profit Analysis*

**based on production for 100 liters of grade A VCO*

	Liquica	Baucau – Waimata Oli	Baucau – Tasi	Viqueque
Income				
Grade A VCO	\$120.00	\$100.00	\$100.00	\$100.00
Husks	\$10.00			
Shells	\$10.00			
Pulp	\$20.00	\$25.00	\$30.00	\$62.50
Grade B VCO	\$37.50	\$29.40	\$24.00	15.60
Total Income	\$197.50	\$154.40	\$154.00	\$178.10
Costs of Production	\$68.15	\$79.03	\$79.03	\$62.45
Profit	\$129.35	\$75.37	\$74.97	\$115.65

- During the quarter DSP brokered a contract between the Liquica VCO producer group and the Golden Star Restaurant in Dili. The sales agreement has the producer group delivering their virgin coconut oil to the restaurant directly at the agreed price of \$1.20/liter. The first delivery of 30 liters was made on 25 March.
- DSP's Quality Control Assessor consultant completed an assessment of the rice weeder prototypes produced by workshops participating in the GTZ/MAFF/DSP training conducted during the previous quarter. Based on these findings, DSP will work with the Ministry of Agriculture's Maliana Agricultural Services Center and GTZ to procure rice weeders from three (of the five) workshops that passed the evaluation criteria. DSP will provide support, in the form of targeted business training as needed, to assist the qualified workshops in the bidding of and management of contracts for the up to 450 weeding machines needed by the MAFF/GTZ rice expansion program.
- **Growth of Timorese Service Providers** - DSP continued providing technical and management support to the Associaçao de Transportes dos Camioes de Timor-Leste – Transportation Truckers Association - (ATCTL) in its implementation of a World Food Programme (WFP) contract to deliver food aid. For the quarter the contract has provided the following benefits for the 35 members and subcontracted independent truckers:

**Table 4: ATCTL Revenues from World Food Programme Contracts
January – March 2008**

Month	# Truckers Benefiting	Revenues
January	40	\$ 41,472
February	3	\$1,150
March	7	\$ 2,400
Total Revenue for Quarter		\$ 45,022

The reduction in work with the WFP stemmed from the State of Emergency declared as a result of the assassination attempts made on Timor’s President and Prime Minister on 11 February. To date, DSP’s support of the ATCTL has yielded \$551,504 in revenues from WFP contracts.

For the quarter the total impact of DSP’s efforts in developing and supporting the development of the Timorese Private sector was:

Table 5: Impact – Linking Business to Markets

Month	# MSMEs	Income/Revenue	# Direct Beneficiaries		
			Male	Female	Total
January	44	\$42,221	73	9	82
February	5	\$1,290	10	6	16
March	10	\$3,187	40	12	52
Net Impact*	46	\$46,698	87	18	105

** Note: some MSMEs receive DSP support from month to month (such as the VCO producer groups). The statistics above represent the net total of MSME’s and individuals benefitting from DSP’s efforts, rather than a summation of DSP’s monthly successes.*

Next Steps – Market Linkages: DSP will continue to focus on expanding the sales of local products by:

- **Product Promotions**
 - DSP will launch its campaign of “Buy Local Now” to promote and improve the image of Timorese products for sale in Dili’s retail supermarkets. The promotion will be launched in conjunction with the celebrations for Timor-Leste’s Independence Day in May.
 - DSP will conduct a workshop with the producers of the high quality local products found identified by DSP’s product survey. The purpose of the workshop will be to create a standard by which they and others will be linked to DSP’s local product promotion campaign.
 - DSP will conclude the weeder production pilot program.

- **Market Linkages**
 - Working with the International Labour Organization’s Women in Economic Self Employment Program, DSP will train and link five new village level VCO production groups to supply Acelda’s Minutil brand.
 - DSP will continue to work with Acelda to grow its market, and will look at a possible supply contract to the Ministry of Health’s Child and Maternal Health Feeding Program.
- **Strengthening Services**
 - DSP will work with the management of ATCTL to reviewing the findings by the external auditor (submitted in January). The events of 11 February, and resulting tensions, hampered the members of the financial committee to meet and jointly map out with DSP the next steps that need to take place to ensure successful management of the growth by the association.
 - DSP will provide direct technical assistance to the management of Zero Star to improve their management, inventory, and sales management systems.
 - DSP will enter discussions with the Sentru Internasional ba Jurnalistas (ICFSJ) to investigate any interest in creating an advertising/marketing firm as an offshoot of that project.

[2] Increase access to quality business services

Objective: Support the growth of the private sector by strengthening micro, small to medium enterprises through the access to quality technical and business training and other support services.

Progress: DSP continued to assist in the development of the management practices of Zero Star by linking an accounting consultancy, Haksolok Consulting, to provide accounting training and financial management oversight to Zero Star’s management. Starting in January, Haksolok took on an advisory role, as the manager of Zero Star has been fully trained on account recording and entry. Haksolok supports Zero Star by double checking the books and providing technical assistance and training where needed.

In addition, DSP has provided direct technical support to Zero Star, assisting the company to establish their product and sales information systems. This was provided by DSP’s Commercial Services Specialist and Agribusiness Team Leader.

Next Steps – Business Services: As highlighted in the previous section, DSP will assist companies involved in the sale of local products with a unified awareness “Buy Local Now” campaign. In addition DSP will:

- Continue to provide technical assistance and mentorship to Zero Star in the implementation of best accounting practices.
- DSP will work closely with the management board of the ATCTL to review and implement the suggestions raised in the audit report of the association's finances. DSP will provide training as needed to strengthen the association's cash management policies and procedures.
- DSP will enter discussions with the USAID funded Sentru Internasional ba Jurnalistas to investigate any interest in creating an advertising/marketing firm as an offshoot of that project. If there is mutual interest, DSP will work with the ICFJ to look at innovative ways to create an advertising or marketing company as a spin-off from their core programming.

[3] Increase quality services that support the tourism (hospitality) industry

Objective: Working with the Association of Tourism, Timor-Leste (ATTL) identify the key inputs that could better meet the needs of the industry through targeted assistance, including if applicable, facility upgrades, internships, and program design of new or improved training.

Progress: The ATTL continues to have organizational and management issues. The President and Vice President of the association have yet to call a meeting to present the hospitality skills training inventory DSP presented to them for comment and feedback in September 2007. DSP attempted to move the organization forward by asking for a series of discussions/decision meetings with the following key stakeholders:

- 28 January – Mr. Gino Favaro, President and Mr. Vicente Ximenes, Executive Board Member of ATTL
- 12 March – Ms. Anne Turner, former Vice President of ATTL and current Tourism Advisor to the Ministry of Commerce, Tourism and Industry
- 26 March - Director of Tourism, Mr. Migel Lobato

The ATTL recognizes a need for a structural change so that the organization can move forward. An outcome of the efforts by Ms. Turner is that the Government of Timor-Leste is prepared to both encourage and facilitate this process. However, no defined timeline by either the Ministry of Tourism or ATTL has been presented to DSP as to when this will happen. Therefore, DSP will table its direct efforts of working in the tourism sector through the ATTL until progress is made by either party.

During the quarter DSP was approached by the Tais Market, a self-organized group of 42 vendors that sell Timor's traditional weaving, in a common market area. On 24 January the group met with DSP outlining their common need for assistance. Specifically, the group is interested in English and Portuguese language training, business training, and assistance with marketing. DSP worked closely with the group to develop a proposal to the USAID Small Grants Program for assistance. On 10 March 2008 the proposal was delivered to SGP, reviewed and approved.

Next Steps - Tourism: DSP will track any developments made by either the government or the private sector concerning next steps to move the ATTL forward. If there is progress, DSP stands ready to be a participant and supporter of the process. In addition, DSP will assist the tourism sector by:

- Assisting the Tais Market in designing a marketing plan and materials. This is part of the coordinated mix of funding and technical assistance that agreed to in order to maximize USAID's DSP and SGP resources to best empower the 42 vendors at the Tais Market.
- Planning for the Second Annual Alola Foundation Holiday Crafts Fair. Based on the success of the crafts fair, DSP will begin joint planning with Alola to determine how to improve the Holiday Fair and expand both its impact on participants as well as increase their numbers.

[4] Improve accounting and bookkeeping skills and practices

Objective: Increase the quality of accounting skills within Timor-Leste by raising the skills of Timorese accountants to an international standard.

Progress: DSP provided direct technical assistance to the Accounting Association of Timor-Leste (AATL). Specifically, DSP's Commercial Services Specialist provided hands-on information and administrative management training with the association's administrator. In addition, DSP's Commercial Services Advisor provided technical and strategic feedback to the association's management board.

During the quarter the AATL commenced a Basic English training course, with sessions weekly. Beginning 15 March, 20 members (8 men and 12 women) attended the first course. This will be followed by Business English and formal courses on to improve accounting knowledge and skills.

Next Steps – Bookkeeping and Accounting Skills: On 30 June 2008 the funding from the USAID Small Grant Program expires, therefore the priority for DSP will be to work closely with the AATL to support their organizational and financial sustainability plans.

[5] Increase credit opportunities for MSMEs in productive sub-sectors

Objective: Increase credit opportunities for MSMEs working within the sub-sectors that DSP is involved in.

Progress: DSP continued to increase the credit worthiness of MSMEs by strengthening their knowledge of basic business concepts. Specifically DSP provided:

- costing and pricing training to the village VCO production groups;
- inventory control training to Acelda's staff and management; and
- direct technical assistance to Zero Star on managing supply and demand information, and controlling in-house stock.

In addition, DSP selected Foudacao Caminho to provide basic household cash management training. The pilot, originally scheduled to be launched during this quarter, was delayed due to the arrival of the greenhouse materials for Liquitura, and the commencement of greenhouse construction, which demanded the full time work of the farmers.

Table 6: Basic Business Training

Date	Training	# MSMEs	M	F	Total
27 February	Inventory Control	1	3	0	3
7 March	Costing & Pricing	1	4	3	7
17 March	Costing & Pricing	1	8	4	12
18 March	Costing & Pricing	1	0	4	4
19 March	Costing & Pricing	1	0	7	7
TOTAL		5	15	18	33

Next Steps – MSME Credit Opportunities: DSP is working with the ILO Women in Economic Self Employment (WISE) Program to expand the village-level production of coconut oil. The WISE program is working with Moris Rasik, Tuba Rei Metan, and the Christian Children’s Fund women’s lending groups to identify eligible VCO production sites. DSP will then link women’s groups to new technologies to increase income and a guaranteed buyer of their virgin coconut oil (Acelda).

ENABLING ENVIRONMENT

DSP facilitates business growth by helping to improve Timor Leste’s commercial and legal framework, to be more conducive to business formation and efficient operation. During Year Three, DSP will collaborate with business associations to improve the quality and dissemination of information available to the local business community and investors.

Progress by planned activity:

[1] Understanding government: awareness and information for the business community in Timor-Leste

Because of the widespread lack of such information about the laws of the country, the Forum dos Empresarios de Timor-Leste – “Business Forum” - (FETL) identified dissemination of such extremely important information as a high priority and plans to conduct awareness sessions among members of these communities. These workshops will serve two purposes. First, business operators will be directly introduced to the

laws of the country, and increase their knowledge and understanding of the relevant legislation. Second, the workshops are a way by which businesses self-select for participation in on-going working groups.

Progress: No activity was planned in January 2008. Unfortunately, after the assassination attempts on President Ramos Horta and Prime Minister Gusmau in early February, public gatherings in February-March were banned under the government's declared State of Emergency.

Next Steps – Understanding Government: FETL, working with DSP and IFC are planning a dialogue in the second quarter of 2008. A special initiative to develop tourism is planned in May.

[2] Promoting a constructive dialogue between businesses and the government

No dialogues were scheduled in January 2008. After the assassination attempts on the President and Prime Minister of Timor-Leste in early February, public gatherings were banned under the declared State of Emergency.

[3] Creating a network of, and for, women owned-businesses

USAID, through its Small Grants Program, sponsored two participants from Timor-Leste to attend the 12th Women Leaders Network Meeting in Australia, June 24 – 27, 2007. Timor-Leste's participants returned to Timor and organized a series of seminars at which women from all 13 districts shared their insights into special problems encountered by women-operated business and developed recommendations for ways that women can be more proactive in the business community. By 18 December 2007, the group had formed a six person steering committee and undertaken the drafting of a charter and organizational memorandum.

Progress: In the first quarter of 2008, the members of the steering committee of the Timor-Leste Business Woman's Association held several meetings and forged a draft charter. The official name of the organization - Associação Empresarial das Mulheres de Timor-Leste (AEMTL) - was selected and registered. The organization first general assembly meeting was scheduled for 2 April 2008.¹ At that meeting officers for AEMTL will be elected, the AEMTL committee structure will be established and an ongoing planning process will begin.

Next Steps – Women's Business Network: In second quarter 2008, the Business Women's Group of Timor-Leste will be fully functional. It is seeking to co-locate offices with the Business Forum (FETL) or with DSP.

¹ The meeting was rescheduled for 26 April 2008.

MANAGEMENT AND ADMINISTRATION

Administrative and Technical Management: During the quarter the administrative staff supported DSP program activities including providing the logistical and administrative support to the following short-termed consultants fielded:

- Mr. Salvador Delloro, Fabrication Quality Control Expert, from 13 December 2007 – 31 January 2008
- Mr. Mateus Nascimento, Agribusiness Technical Field Assistant, from 15 February - 14 May 2008.
- Mr. Salustiano Nahak, Agribusiness Technical Field Assistant, from 19 February – 18 May 2008.
- Mr. Alex Dalley, Horticultural Specialist, from 3 December 2007 – 16 March 2008.

In addition, DSP experienced the following staffing additions and changes:

- Additions:
 - Product Promotions Specialist - Mr. Marcolino de Jesus da Costa Babo joined the project on 2 January 2008.
 - Program Manager/Monitoring Specialist - Mr. Jose Belo joined DSP on 1 February 2008.
 - Agribusiness Advisor - Mr. Alex Dalley Joined DSP on 17 March 2008 to replace out-going advisor Mr. Kurt Koomen.
- Departures:
 - Ms. Diva Cabral, who had served as DSP's Office Manager since 2005 left the project for an opportunity on another USAID-funded project on 25 February.
 - Mr. Kurt Koomen completed his term as DSP's Agribusiness Advisor on 14 March 2008. He continued to serve as a consultant to DSP until his departure from Timor-Leste on 14 April 2008.
- Changes/Promotions:
 - In March, Agribusiness Specialist, Mr. Sancho Da Silva moved from the Agribusiness to the Commercial Services team, in his continued support of the VCO program.
 - DSP filled its long vacant Marketing Specialist position with an internal candidate. DAI is proud to have promoted DSP's Project Administrator, Ms. Nina Sarmento, to this role. She commenced her duties on 26 March.

Procurement: DSP had procurements during the quarter. DSP purchased ten new tires for the three project vehicles in January 2008 to maintain the safety of our vehicles.

DSP renovated the existing office space to add a new office and a meeting room to accommodate staff needs.

Annex I

SUMMARY OF THE USAID DEZENVOLVE SECTOR PRIVADU MUNGBEAN INITIATIVE 2007 -FINDINGS AND RECOMMENDATIONS

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**Summary of the USAID Dezenolve Sector Privadu
Mungbean Initiative 2007**

Findings and Recommendations

January 2008

Alex Dalley

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Acknowledgement

The consultant wishes to thank input from the farmers who were involved in the program and those interviewed for the survey, DSP Agribusiness staff (William Bereati, Carlos Reis and Sancho da Silva) as well as DSP Management and administration staff.

Summary

The USAID DSP Mungbean Initiative involved more than 317 farmers across Cova Lima and Bobonaro Districts in 2007. The Initiative expanded mungbean production in the area by sharing seed to farmers. Following harvest, the expanded volumes of mungbean were then actively marketed by DSP staff to existing agricultural commodities purchasers.

During the growing season DSP staff attempted to increase the mungbean on farm yields through production training and the dissemination of extension materials. Growing practices of Timorese farmers are compared with those of the developed world to identify potential barriers in the mungbean value chain.

Unfortunately due to a lack of resources and time the practices promoted by DSP were not widely adopted. However one of the strengths of the Initiative was the gender disaggregated information recorded by DSP staff regarding participating farm households. Information in key areas such as member names, their farm location and the amount of seed or the new technologies they received was highly accurate. The veracity of other aspects of the data collected, such as the adoption of new technology and the on farm yields were more varied. Some suggestions for improving data collection are made.

The most promising aspect of the DSP Initiative was the invitation of Dili based exporter of agricultural products, Timor Global, to purchase the increased production resulting from this seed distribution. Future DSP commodity initiatives should focus on increasing farm incomes at the household level through increasing the quantities and prices per kilogram of mungbeans sold. Suggestions for doing this in a way that is sustainable and does not damage existing seed distribution networks are presented in the final section Conclusion and Recommendations.

Introduction

The Mungbean Initiative was carried out as part of USAID DSP activities in Cova Lima and Bobonaro Districts of Timor-Leste in 2007. The Initiative was aimed at expanding mungbean (*Vigna radiata*) production in Cova Lima in 2007, specifically to 'promote production of commercially viable quantities and quality of mungbeans'.

This was done with consideration of the broader DSP Indicators:

- % change in value of intra-regional exports of targeted agricultural commodities as a result of United States Government (USG) assistance
- Number of new technologies or management practices made available for transfer as a result of USG assistance
- Number of individuals who have received short-term assistance (gender disaggregated).
- Number of rural households benefiting directly from USG interventions
- Number of agriculture related firms benefiting directly from interventions as a result of USG assistance

Materials for the implementation of the Initiative cost approximately \$5000USD and the Initiative was carried out by one DSP staff member supported by management and administration staff whilst he was working in Suai.

The genesis of the Initiative was a demand for mungbeans expressed to DSP staff by multiple buyers. These buyers were looking to aggregate commercial quantities for export to Indonesia or other south-east Asian countries. The buyers claimed to be happy with locally available mungbean varieties but were frustrated by the small quantities available.

Farmers in Timor-Leste are familiar with growing mungbeans as a cash crop. Mungbeans were planted extensively under Indonesian times and there are records of their planting and sale to Chinese traders during Portuguese colonial rule (Metzner 1977). Since Independence the mungbean industry has been hampered by poor market linkages and a lack of seed at an attractive price at a suitable time.

Limited data exists on quality and yields from local seed varieties, or guidelines on appropriate practices for the growing conditions in Timor-Leste. At the time of writing the Ministry of Agriculture and Fisheries are preparing a Commodity Profile on Mungbeans which this report has informed and will be ready for printing in March 2008. Whilst the collection of agronomic data regarding mungbean cultivation in Timor-Leste was not the expressed goal of the activity, it was intended that data collection during the Initiative would be carried out so that some agronomic conclusions might be drawn.

Importing and trialing improved mungbean varieties for their domestic suitability is a long and complicated process that is best lead by Government. As such DSP did not import seed but distributed local seed to farmers for planting. A total of 317 farmers formed 20 farmer groups. Each farmer received seed as in-kind credit. Seed was allocated according to individual land area available for planting, and calculated on a basis of 25 kg of seed per hectare. As DSP had no guarantees on quality of seed, it was agreed with farmers that seed would be returned on a one for one basis.

Despite a lack of in-country data and guidelines on best growing practices, DSP offered farmers some basic growing guidelines based on Indonesian Government extension agency information.

The 2007 growing season has been used as a trial for the DSP approach. This report gathers recommendations to guide future plantings of mungbeans as well as other commodity crops, such as peanuts, which are the subject of other DSP Initiatives.

Quick Statistics

Variable	Value	Unit
Average Planting Area per DSP Household	6900	m ²
Seeding Rates	25	kg/ha
Average Yield	430	kg/ha
Multiplication Rates	20	

Basic growing guidelines DSP offered to farmers

Training regarding the management of mungbeans was given to 212 farmers in 18 locations between the 2- 18 June 2006. Training attendance was recorded using the DSP Attendance Sheets which record the location, date and gender of attendees. A brochure regarding mungbean management practices handed out to 194 attendees of the trainings in three Suco. The brochure was drafted by DSP staff using Indonesian government and NGO materials posted on the internet. The sources of these materials were not cited in the brochure which was written in Bahasa Indonesia, designed in MS Publisher and printed in a run of 200 color copies Sylvia print shop Dili.

Topics for the training and brochure included:

- Timing of planting
- Land preparation
- Spacing and seed quantity
- Crop management
- Harvest of crop
- Post-harvest storage of seed

None of the farmers visited retained their brochure for later reference. None of the farmers could describe any of the contents of the training and were politely embarrassed when asked if they had implemented any of the recommended practices.

Recommendation: DSP does not have adequate resources to promote production per unit area increases that rely on changing farmer behavior.

Timor-Leste and Developed Country Production Practices

MUNGBEAN VARIETIES

The lack of early and uniformly maturing, high yielding, disease resistant varieties of mungbeans is a factor limiting mungbean production in Timor-Leste. However interviews with farmers involved in the DSP Mungbean Initiative did not return any negative comments regarding the characteristics of the seed with which they were supplied.

Generally, the characteristics of mungbean plants which are positively correlated with plant yield include the number of branches per plant, the number of pod bunches, seed size and the plant height (Ajmal and ul-Hassan 2002). Yield per hectare is related to characteristics such as drought and disease tolerance and uniformity of pod maturity. The yields of DSP Mungbean Initiative farmers are further discussed in section 0.

Locally available mungbean varieties such as *Fore Belu* are late yielding (longer than 65 days), non-uniform in plant appearance and maturity as well as being susceptible to disease such as Cercospora Leaf Spot and Mungbean Yellow Mosaic Virus. During on-farm trials carried out by USAID DSP, seed from two separate in-country sources demonstrated large variations in yield. Trials were carried out under farmer management conditions in Suai Kota and Tilomar Sub-Districts, Suai District. Average yields of seed supplied by Agricultural Service Centre in Viqueque out yielded that sold by Timor Global. This seed was originally sourced from the ASC Maliana which bought the mungbeans from farmers in Balibo. Seed supplied from Timor Global was sourced from a number of different locations throughout Timor-Leste.

Table I Yield of Two Domestic Mungbean Varieties Suai 2007

Seed Source	Number of Sites	Average Yield (ton/ha)
ASC Viqueque	198	0.48
Timor Global	119	0.31

Early and uniformly maturing, high yielding, disease resistant varieties of mungbeans are available from commercial seed growers in Australia, Indonesia and the Asian Vegetable Research and Development Centre (AVRDC) in Taiwan. Mungbean varieties were trialed in replicated research trials as part of the MAF Seeds of Life Program in 2001. The varieties were sourced from the Research Institute for Legumes and Tuber Crops in Malang, East Java and were trialed on MAF research stations in Aileu, Los Palos and Manufahi. All introduced varieties significantly out-yielded the local check variety. Despite out-yielding local varieties these Indonesian mungbean varieties have not been trialed on farm under farmers management conditions.

Improved mungbean varieties need to be evaluated for use in Timorese farming systems and conditions. Varieties demonstrating yield advantages over locally available varieties should be recommended by MAF, multiplied and released for farmer use. On farm seed should be replaced every two to three years to maintain varietal purity (NSW DPI 2007).

SEED BED PREPARATION

Labor availability is a factor limiting increased production through improved field preparation. Raised bed cropping was not used by farmers involved in the DSP Mungbean Initiative. None of the collaborating farmers tilled their soil prior to planting mungbeans in 2007 but hopefully this will change in 2008 following the introduction of MAF tractors to the area in late 2007.

Mungbeans need a well prepared seed bed for good germination and 20cm raised beds for improved drainage (AVRDC 2007). Mungbeans can be planted into crop residues and are usually planted with a density of between 25-30 plants per square meter with row spacing of 50-100 cm (NSW DPI 2007). However traditional practice in Timor-Leste is to carry out field preparation by hand. Raised beds are not used. Crop and weed residues are cut and the soil turned with hoes. Crop residues are then raked and burnt. Using this method takes roughly 5 labor days to prepare 1ha for planting (DSP staff pers. comm.) which is one of the factors limiting planting area, with only 5% of farming households growing the crop (TLHS 2001) on an area of around 500ha nationally (Sendall 2006). Planting into raised seed beds would also reduce water-logging damage which is common in the wetter high fertility alluvial plains of the south coast.

WEED CONTROL

Labor availability for weed control is also a factor limiting increased production.

The majority of mungbean farmers in Timor-Leste control weeds by hand. Farmers interviewed regarding the DSP Mungbean Initiative reported weeding more than three times in the six week growing season. Only two of the 9 farming households interviewed reported weeding in work groups. This is a sign that the areas planted were within the capacity of the household to maintain.

Weed competition decreases yield by reducing mungbean plant access to water and nutrients as well as contaminating harvested seed. Weeds need to be controlled early up to roughly 40 days after planting when flowering begins (AVRDC 2007, NSW DPI 2007). A number of farmers with large fields in Salele Suco, Suai District use the glyphosate based herbicide, Monsanto Roundup, which can be purchased in West Timor and Suai Town markets.



Manual weed control during first 40 days of plant growth, Cova Lima District

HARVEST

Farmers involved in the DSP Mungbean Initiative harvest and thresh at one time using shared labor groups. This creates some seed quality concerns which are discussed below. Pricing for international commodity markets is heavily dependant on uniformity and quality of appearance. As such the local market is not attractive to export oriented purchasers. However quality concerns have not been raised by purchasers from West Timor. It may be that they are retailing the product in their domestic market or that their wholesale contracts do not provide a quality price premium.

When harvesting mungbean it is recommended (QDPI 2007, AMA 2005, NSW DPI 2007) to wait for roughly 90% pod maturity (pods turn black) before harvesting. In developed nations the crop is sprayed with herbicide and left to dry in the field. Pods are then harvested before they become too dry and begin to shatter, losing the grains. Varietal breeding programs in Queensland Australia are now focused on selecting for varieties which resist shattering for long periods which reduces losses following the spraying of the crop.

Local varieties in Timor-Leste have widely varied pod maturity times because of their long flowering periods. Pods on some plants reach maturity during a two to three week period. In response to this farmers in Timor-Leste use two methods for harvest. Some harvest by picking individual pods as they turn black. This practice was quite rare and not used by farmers involved in the DSP Mungbean Initiative. Picking is possible for small areas but labor needs limit the use of this practice for large areas such as 1- 2 hectares. On these farms the whole crop is cut and left for drying during a single operation. This causes green and black pods to be mixed together during harvest. The crop is then left to dry for one or two days in the field, either in piles on the soil or on a tarpaulin.

Harvested plants and pods are then threshed using one of two methods. Some farmers use wooden sticks for threshing, a process called *baku fore*.



Traditional threshing of harvested mungbean plants, Cova Lima District

Other farmers use the more traditional *sama* process where the crop is stamped by a group of dancing men. Whether using *baku fore* or *sama* the green pods are separated from the black mature pods and left with the plant trash for feeding to animals. Green pods and plant stems exude a sticky sap when scratched which can coat the grains from these pods. This sap causes dust from the harvesting and threshing process to stick to the grain giving them a dull color, a process known as 'staining'. Grain grading is discussed below.

POST HARVEST MANAGEMENT

The absence of institutional or trader owned post-harvest drying, cleaning, grading and storage facilities is one of the constraints to increasing mungbean production.

Regarding post-harvest management, the value chain could be improved in three ways:

- Work with larger farmers to improve on farm storage which would enable them to increase planting areas.
- Work with wholesalers in Timor-Leste, particularly in border Districts, to improve their storage methods and facilities thus enabling them to capture high prices between November and February each year (Sendall 2006).
- Encourage quick transfer of grain from farmers and traders in Timor-Leste to traders in West Timor.

In Timor-Leste grains are sifted by hand for cleaning of leaf material, stems, immature pods, dirt, insect parts and other debris. Drying is carried out on tarpaulins or concrete pads near to houses. Grain is then bagged for weighing and sale or storage on-farm. Mungbeans are highly susceptible to damage from post-harvest pests such as cow pea bruchids (*Callosobruchus maculatus*).



Cowpea bruchids (Callosobruchus maculatus) Photo QDPI

Bruchids are a major threat as a density of two bruchids per tonne can result in 100% loss of stored beans within 4 – 6 months. Bruchids are similar to maize weevils (*Sitophilus zeamais*) in that they are 3mm long brown beetles with a tear shaped body. But they differ from weevils in that they do not have an elongated snout. Bruchids breed rapidly and can complete a life cycle in 28 days. They infest the mungbeans in the field by laying eggs on the pods and lay eggs directly on the grains when in storage.

Traditional on-farm control of bruchids consists of mixing the mungbean seed with paw-paw leaf (*Carica papaya*), ash and ground coconut meat (*Cocos nucifera*). The resulting pulp is then dried for approximately one day before being stored in a full jerry can that is sealed tight with plastic under the lid. Grain can be stored for 3-4 months in this manner (Oplinger et al. 1990).

Hermetic storage (sealed storage) of seed dried to below 7% moisture content is a suitable method of bruchid control (AVRDC 2007). This method relies on the natural respiration of suitably dried seed to keep the oxygen content inside the storage vessel below levels at which weevils and bruchids can survive. Farmers with larger areas of mungbean production, particularly in Suai, store mungbean seed and mungbean for sale in used oil drums which are purchased cheaply from West Timor (roughly \$25 per drum). Drums are always kept in shade either under the traditional house or under an awning. Grain can be stored for 1- 2 years in this manner (DSP staff pers. comm.). A cheaper method of hermetic storage is the use of plastic GrainPro bags which are inserted into rice sacks and tied tight. Both of these methods are being trialed in Suai through MAF Seeds of Life and DAI DSP storage trials.

Cooled storage of small amounts of seed would also control bruchid infestation. Bruchid breeding ceases at temperatures below 20° C (QDPI 2007). Storage at low temperatures is obviously only feasible for small amounts of seed.

Wholesalers in West Timor have more advanced storage facilities. Two large cereal focused commodity trading companies, Gajah Madah and Paris Indah, deal in non-graded mungbeans which they purchase in Atambua, West Timor. They both use chemical insect control methods for the storage of mungbeans. Both of these companies use sealed silos to store more than 100 tonnes of mungbean at any one time and have no limits on the amounts which they would accept for purchase. Losses due to storage pests could be avoided by encouraging quick transfer of grain to these trading companies for storage. However farmers and traders would not then be able to take advantage of seasonal price variation.

GRADING

Mungbeans sold both domestically and across the border to West Timor are not graded for quality. This is a barrier to increased export sales as traders report low prices when the product is graded for sale in larger export oriented markets such as Surabaya, Indonesia (DSP staff pers. comm.). The two large trading houses in Atambua, West Timor clean the purchased grain for harvest debris, soil and foreign material but do not grade based on color, size, germination or pest and disease presence. However traders in Suai Kota, who export to these trading houses in Atambua have not offered a price differentiation for graded mungbeans. Instead Suai based traders expressed concern that the mungbeans they buy are free from dirt, rocks and plant trash.

The Australian Mungbean Association sets voluntary export grading standards for Australian producers who are members of the association. There are five grades based on grain appearance, size, purity, germination, oversoaks (% of grains which imbibe water following 24hour soaking in water), moisture content and disease presence:

1. Sprouting
2. Cooking
3. Number 1. Processing
4. Processing
5. Manufacturing

Exports from Timor-Leste will always struggle to compete with the transport and production scale efficiencies created by larger mungbean producing countries e.g. America, Australia, India and Nepal. In the medium term a more simple grading system based on grain size and uniformity would be a driver for increased interest in the Timor-Leste mungbeans market on the part of exporters.

LOCAL SEED PROCUREMENT

Prior to intervention on the part of DSP, the small farmers included in the Program used one or a mix of three main sources of mungbean seed in Cova Lima. None of the sources

distinguish between different varieties of mungbean and the only comment made regarding varietal factors of mungbeans available in Timor-Leste was that black pod mungbean was more common during Indonesian times but not necessarily preferred.

Each of these sources has merits and disadvantages and these are described below.

Local Market for Seed

The local market for mungbean seed has three levels. Local traders such as Comico and Mafalda provide mungbean seed at planting time for \$1.00 per kilo. This is then retailed throughout Cova Lima in smaller markets for between \$1.00 and \$3.00 per kilo. Lead farmers in each Village also sell mungbean seed but prefer to loan seed as described below. The only thing that distinguishes planting mungbean seed from grain is the time of sale. No distinction is made on the basis of seed quality and none of the seed is packaged or supplied with information on germination, for example.

Local Seed Loans (*fahe hasil*)

In a number of the communities visited there was a person who acted as a local seed bank offering seed on share farming basis. The resulting production is then split two ways with one half-share going to the seed lender and the other to the farmer (who is usually also the land owner). A farmer group leader in Holbelis, Suco Labarai claimed that there were ten or more such people who carried out *fahe hasil* seed loans in the Suco, a claim which was supported by one of his group members in a later interview who named two such people.

Depending on the yield, the Return On Investment (ROI) for *fahe hasil* seed loans is usually around 900%². This makes the terms of the loan very unattractive to the borrower and might explain why they aren't more widely known and used. Fernando and Lucinda da Costa in Suco Becu, Aldeia Holbolu offered loans of 5L jerry cans of mungbean seed to farmers in their area. Three farmers took up these offers. Farmers who received seed from DSP also offered similar loans to farmers in their area. One farmer with a 1.7ha land area in Fatu-isin, Suco Camnassa said that the 50kg he received from DSP was more than the 20kg he needed for planting and so he shared out in the remaining 30kg in a *fahe hasil* loan to three other farmers. One other farmer in Holbolu, Suco Becu also reported having surplus mungbean seed from the DSP amount and claimed that he shared this seed although did not say under what conditions.

Farmer Stored Seed

The use of sealed jerry cans for the storage of mungbeans is widely practiced in Cova Lima. In some cases the stored seed is mixed in the jerry can with ash, papaya leaf or coconut pulp. It is possible that this works in much the same way as desiccated silica is

² With a 25kg/ha planting rate a good yield is 500kg/ha. Half of this is repaid to the seed lender giving them 225kg profit on the original 25kg loaned.

used in commercial Western farming for the treatment of storage pest, i.e. where small dry particles attach themselves to the body of the insect drying the insect out by osmosis.

None of the farmers we visited were having difficulty storing their own seed. One of the farmers visited had failed to store any seed for replanting. None of the traders visited store their seed for long enough for storage pest infestation to be noted.

Program Beneficiaries

Program beneficiaries are recorded as farmers rather than farming households. The program involved 169 male and 148 female farmers. The gender breakdown of both households suggests that involvement in the program was equally divided between men and women. Average farming household size in Suai is 5 persons with 2.5 males and 2.5 females per household (Andersen 2007). This is also supported by a gender breakdown of the tasks involved in mungbean farming shown in Table 2.

Table 2 Tasks and Responsibilities for Mungbean Production in Suai

Activity	All	Children	Men	Women
Store and choose seed				X
Hoe/clear land			X	
Plant seed				X
Weed crop	X			
Harvest	X			

Farmers arranged themselves in groups for participation in the program. A datasheet regarding the membership of each group (among other variables) was collected from each group leader. The name of the group leader was recorded on the sheet but not transferred into the final MS Excel database. This list of group members was used for distribution of materials and training.

The veracity of the group members and their signatures was not checked by DSP staff. This is particularly important for the distribution of materials such as seed and storage drums. There were three un-distributed drums in the house of a farmer group leader in Suco Becu and two farmers in Suco Salele complained that they never received seed. These minor problems could be avoided if there was some independent monitoring of the veracity of the lists supplied by the farmers' group leaders.

Recommendation: for all material distributions check the veracity of the lists by doing follow-up monitoring.

It is recommended that future farmer listing data is done on a farmer by farmer basis. A hard copy folder should be kept for each farmers' group. In this folder would be Listing Surveys for each of the farm households in the group, a copy of this survey as it has been drafted for the Peanut Initiative 2008, is included as an Appendix.

DSP Mungbean Initiative Data Verification

The DSP Mungbean Initiative collected data on the 317 participating farmers. A list of names for each group was collected from the group leaders.

This list was then used for future data collection. For example when recording the land size and amount of seed distributed, a list of names for each group was printed with blank spaces for the recording of each farmers' land size and the amount of seed received. These sheets were then signed by the group leader in each site and returned to DSP staff for entry into an MS Excel spreadsheet. Some but not all of these sheets were filled out by DSP staff firsthand, others by DSP staff in collaboration with the group leader. Other sheets were returned by the staff of collaborating NGOs.

Whilst it was not clear from the MS Excel database which of these various data collection methods were used for each group it became clear through interviews that Moris Rasik were responsible for Maudemu Suco (19 farmers) and Christian Children's Fund (CCF) gathered data for Labarai Suco (98 farmers).

The variables collected, their methods of collection and their accuracy are described below. Some of these were easily verified during field visits, for instance land size. Others were more difficult and relied on farmer recollection of events such as the amount of seed harvested. This is noted in the text below where applicable. No data on rainfall or soil quality was collected and this needs to be addressed in future Initiatives.

Recommendation: Collect rainfall and soil quality data.

Variables	Accuracy
Member Name	
District, Sub-District, Suco, Aldeia	High
Group Name	
Gender	

The person whose name was recorded on datasheets as the farmers group member was the person who received the seed from the head of the group. This Member Name can not be assumed to be the person carrying out the farm activities. Tasks associated with the cropping are shared between all members of the family and often a wife might not know how many sacks of seed were received could accurately describe the number sold. Nor does the Member Name describe the head of household. For example the Member Names were predominantly women in Ai-taman, Suco Salele where Moris Rasik had recorded women's' groups only. But during interviews with these households it became apparent that there were also men in these households and that the women demurred to them on issues such as yield and seed received, for example.

In some Sucos the Group Names were recorded and in others they were not, for example in Holbelis, Suco Labarai where CCF gathered the participating farmer information and did not distinguish between the various farmers' groups in Holbelis.

Gender and cadastral information recorded in the MS Excel database were highly accurate.

Variable Land Size	Accuracy Low
-----------------------	-----------------

The farm parcel map of lowland Cova Lima District has been heavily influenced by the Indonesian *transmigrasi* program under which approximately 25 000 people from Java and Bali since were assisted to occupy 'under-utilized' land in Cova Lima and Bobonaro Districts from 1982 onward (Rio 1999). As such many farmers identify their farm areas in 0.5ha increments. In reality farm parcel areas are in flux as they change to incorporate natural drainage channels, fence lines and incomplete tillage. Farmers often stated their land area in these terms but when they were measured using a pedestrian meter rule or handheld GPS unit the real area was generally smaller. Following this survey, farmers' impressions of their land parcel area were found to be between 13% and 45% over estimated. As the DSP database largely reflected farmers' impressions rather than a real measurement the accuracy of this variable has been rated as low.

Recommendation: DSP staff visit every farm for a listing survey in which the area intending to be cultivated for each crop is accurately measured using a handheld GPS unit. The data is then recorded on a paper form for later entry into an MS Excel file.

Variables Amount of Seed Distributed Amount Returned	Accuracy Low
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In general farmers who were listed on the DSP database did in reality receive mungbean seed. No farmers complained about the quality or timeliness of the seed delivery which is unusual in Timor-Leste where poor quality seed delivered in a non-timely fashion is the norm.

However the finer accuracy of this information was reduced by two factors:

- The various data sources and seed distribution organizations.
- A lack of recollection of the data by farmers and their use of non-standardized units of measurements.

The issue of mixed sources of data is discussed above in Data Collected from Individual Farmers. There was also some variation in the amounts and methods of seed distribution between CCF, DSP and Moris Rasik. Seed distributed by DSP was in 25kg sacks and farmers either shared one sack between two or took one or two sacks for themselves depending on their land area. These farmers tended to have more than sufficient seed and were more likely to be on-sharing this seed to other farmers in the area. DSP staff,

through the farmers group leaders who reported on the seed distribution by returning data sheets, endeavored to document instances where farmers were over supplied with seed. However original data sheets and the MS Excel database did not differentiate between original recipients or those who had come by seed through the on-sharing.

Seed distributed by CCF was in loose one kilogram amounts depending on the amount of seed which farmers' wished to borrow against their Agroloan from CCF and their collaborator Graca. Given that the seed was 'borrowed' at a 50c/kg rate it might have seemed expensive to the farmers receiving seed from CCF when compared with the 1kg:1kg loans offered by DSP. As such these farmers tended to receive less seed and carry out less secondary sharing.

Seed distributed by Moris Rasik was more frequently reported as insufficient. Three farmers from the Moris Rasik area, Suco Salele, were visited. One reported not receiving seed at all. This farmer claimed that she was told by the group leader that Moris Rasik tried to deliver her seed when she was not home and that when she asked for the seed later she was told there was not enough. She claimed this was also true for one other member of her group. Staff from Moris Rasik were not approached regarding this issue given that future loans will be delivered by DSP only. Another farmer in the same area reported receiving seed of such a poor quality that she sold it and used the proceeds to purchase less mungbean seed (12kg) of a higher quality.

Variable: Yield	Accuracy: Low
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Average yields for all DSP farms are shown in Table 1. These are low yields relative to commercial crops in developed countries where yields for rain fed crops are greater than 1 tonne/ha.

The geographic and cultural variation in the units of yield measurement in Timor-Leste frustrates accurate data collection. Staff from DSP are fortunate to be dealing in mungbeans, a commodity crop that is not collected for sale in *talin* (ropes), *bote* (woven baskets), *masa* (jerry cans) or *bidon* (drums), all of which vary in volume. However the sacks used in Suai were also found to vary widely in size and volume. Originally sacks were described as 50kg sacks which were then measured by DSP staff and found to contain only 45kg (Bereati *pers comms*). However interviews with farmers indicate that often a range of various sized sacks; 100kg, 50kg and 25kg, were used with the mix depending on the sacks available for loan or purchase in each Suco. The Mungbean Initiative MS Excel database did not describe the varying use of these units by farmers (e.g. Becu Suco) with all yield measured in what were assumed to 45kg sacks.

DSP staff also described some difficulties arising from a reluctance of some farmers to gather seed which may have fallen to the ground, leaving these as an offering to the spirits which make the harvest possible. Obviously this produce was not included in the

recorded yield estimates. It was also not clear from the database whether the yield figures recorded (in sacks) included produce which was consumed by the farm household.

Recommendation: Do not attempt to record every farmer's overall yield.

Farmer group leaders carried out yield data collection. Some recorded the number of sacks sold, whilst others recorded the total number of sacks harvested. The data recording sheets given to the farm group leaders for this purpose did not include explanatory notes however the group leaders worked closely with DSP staff who gave on-going assistance to fill out the forms.

Recommendation: if farmer group leaders are going to assist with data collection it is important that they are given some formal training in measurement and recording of the variables required, particularly the definitions of these variables. Their work should then be verified by DSP staff independent of the group leaders.

Variable: Improved Storage Methods	Accuracy: High
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The DSP Mungbean Initiative trained farmers from 205 households in sealed storage. Each of these households received a plastic Grainpro for sealed storage along with a plastic 40L tub and a sack for storing the Grainpro bag full of mungbean seed in. Field visits to eight households that received this training and materials showed that all these households still had possession of the materials. Unfortunately only one of the eight households was actually using the Grainpro bag. In most cases the Grainpro bag and plastic tub were being stored but not used. In one case the Grainpro bag had been nailed to the household dinner table to serve as a table cover. On a positive note none of the seed being stored by farmers in open containers, rice sacks or non sealed plastic bags had been damaged by storage pests.

The MS Excel database did not actually contain any indication of whether the improved storage methods were being used, just that the training and materials had been delivered. Obviously it is more important to report usage than receipt.

Recommendation: measure and monitor the use of the improved storage rather than simply the number of training attendees/recipients.

Some sites for storage trials have been established monitoring by staff from MAF Seeds of Life Program. This data will be important for measuring the relevance to farmers of the sealed storage method and these trials should be continued.

Recommendation: Follow up and continue SOL Storage trials.

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Variable: Estimated Income	Accuracy: Medium
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In general farmers listed in the database were found to have increased household incomes as a result of their inclusion in the DSP Mungbean Initiative. There are some qualifications to this:

- The income *increase per household* was overestimated.
- The *number* of farmers with increased household incomes was underestimated.

Data collected regarding farmer yield was assessed to have low accuracy (this is further described in the Yield variable section above). The household income data was not collected by DSP but rather it was estimated using the formula:

$$\text{Income} = \text{Yield} \times \text{Price per Kilogram}$$

Where:

- Yield = Number of Sacks x 45kg
- Price per Kilogram = 0.45c/kg

This is a legitimate method of circumventing the time consuming process of building trust with individual households to the point where they could discuss issues of household cash flow openly. However this formula and the use of it in the MS Excel database needed to take account of variations in:

- the units of yield measurements used by farmers,
- harvest beliefs and practices, and
- the final sale prices offered to farmers.

Finally, farmers quoted a wide range of per kilo prices for mungbean sales which were assumed, for the purposes of calculating income per household, to be 0.45c/kg. Original profit analysis figures for the Mungbean Initiative were based on a Timor Global quoted purchase price, at farm gate, of 0.50c/kg. Large scale purchases by Timor Global did not originate despite their presence at harvest ceremonies and their commitment to farmers.

Instead farmers sold their product in a piecemeal fashion to a range of buyers:

- Mafalda and Comico traders offered farmers 0.35c/kg at the farm gate.
- Mafalda and Comico traders offered farmers 0.40c/kg at their shop fronts in Suai Kota.
- Claretian Church buyers offered farmers 0.50c/kg at the farm gate (for Salele Suco only).
- Canottian Sisters Convent in Maliana buyers offered farmers 0.60c/kg at the farm gate (for Holbelis Suco only).

Collecting more accurate income data will rely on improving the collection of yield data. This will require a larger investment of time on the part of DSP staff. Much of the 'lost yield' which is not currently being included in yield measurements does not enter the mungbean market chain. Instead of estimating income as a subset of overall yield it is

more useful to consider measuring only increases of income through sales facilitated by DSP. This data will be simpler to capture as DSP staff will be present by definition.

Recommendation: measure only product which is sold through DSP facilitated transactions rather than overall yield.

Conclusion and Recommendations

The Mungbean Initiative has been a successful attempt to ‘promote production of commercially viable quantities and quality of mungbeans’. Recommendations for future replications of both the Mungbean Initiative and the expansion into other crops are drawn from the previous sections as well as the conclusions discussed below. These are summarized in Table 3 below.

STRENGTHS AND WEAKNESSES

Table 3 Strengths and Weaknesses of the DSP Mungbean Initiative 2007

Item	Strength	Weaknesses	Recommendations
Inputs	No farmer complained about the timing and quality of inputs distributed by DSP.	Inputs from DSP damage local seed security.	<ul style="list-style-type: none"> • Measure the relative frequency and availability of farmer-to-farmer seed loans in new DSP areas before sharing seed (pg 24).
Farmer land preparation	Current practices are cheap and simple.	Lack of tillage is a barrier to yield increase.	<ul style="list-style-type: none"> • Carry out 4-5 plantings with the women for a whole hectare to assess actual per hectare planting rate under farmers conditions (pg 24). • Measure soil quality and pH in Farmer Listing Survey see Appendix (pg 14). • Also measure land size using the Farmer Listing Survey (pg 15).
Farmer crop care	Farmers familiar with the basic mungbean agronomy.	Farmer unwilling to change practices.	<ul style="list-style-type: none"> • Do not promote production per unit area increases that rely on changing farmer behavior (pg 5).
Farmer groups approach	None	Open to abuse by the Group Leader who was often a poor example to the rest of the group.	<ul style="list-style-type: none"> • Do not use farmer group leaders for data collection. If unavoidable give them better notes and training on the exact definitions of the variables they’re collecting and ground truth their work (pg 17).
Yields	Most farmers realized a yield which was recorded in the DSP database.	The yields recorded are likely to be an underestimate for a wide range of reasons.	<ul style="list-style-type: none"> • Measure rainfall at the Sub-District level (pg 14). • Do not attempt to record every farmers’ overall yield (pg 17).
Seed storage	Farmers have retained the materials which were distributed for improving post-harvest storage.	Few farmers are using the materials correctly.	<ul style="list-style-type: none"> • Measure adoption of technology as well as dissemination (pg 17). • Proactively push the monitoring of MAF Seeds of Life storage trials (pg 18).
Monitoring	Basic data was found to be reliable.	Some variables need better definition.	<ul style="list-style-type: none"> • Change objective to ‘increased income at household level’ (pg 3) measured as DSP directly facilitated sales (pg 19).

			<ul style="list-style-type: none"> • Follow-up checks for all material distributions (pg 13). • Measure adoption of technology as well as dissemination (pg 17).
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TECHNICAL GUIDELINES AND PRODUCTION INPUTS

Increasing production of mungbeans through farming practice change has proven to be less effective than increasing the area of production and subsidising farmers' access to market. Improving the delivery of technical assistance to each of the participating households would require a large increase in the number of DSP field staff, particularly if either a Training and Visit model or On Farm Demonstration Trial model is used.

Instead DSP commodity initiatives should continue to use a Farmer Databasing model with expanding numbers of farmers who are linked to services through advocacy on the part of the DSP staff. Advocacy to improve access to:

- Marketing opportunities: encouraging Suai traders to increase their range of Districts which they visit.
- Tractors: encouraging MAF tractors to travel further a field than Suai Kota Sub-District by monitoring and advocating with MAF management in Dili for improved service to collaborating farm households.

MANAGEMENT

One person is working on the Commodity Value Chain initiative and they are overstretched.

Their work can be split into four general areas:

- Mungbean production increase
- Peanut production increase
- Storage improvement at farm and Sub-District level
- Arranging marketing of the commodity for domestic and export markets.

It has been incorrectly assumed that the involvement of a local NGO, Fini Esperanca, will reduce the time input from DSP staff. As described above Fini Esperanca still need intensive training and supervision.

There has also been a clear push for the collection of more accurate data regarding farm participants. Accurate and reliable data, whilst not directly enhancing the commodity value chains, will be invaluable for the DSP Program in two ways, profile raising and monitoring of progress. As a profile raising tool, facts and figures regarding participating households and their production are suitable for submission to:

- MAF publications such as the MAF Agribusiness Newsletter and Commodity Profiles
- NGO Co-ordination meetings such as the OXFAM Sustainable Livelihoods Network
- Donor reporting

The use of farm data as a monitoring tool is described in the Monitoring Arrangements section.

These two reasons, the low level of ability within Fini Esperanca and the need for accurate on farm data collection, mean that the current staffing levels in Cova Lima will not suffice. The Commodity Value Chain needs an assistant Farm Data Collector. A Terms of Reference for this person is attached in Appendix One.

MONITORING ARRANGEMENTS

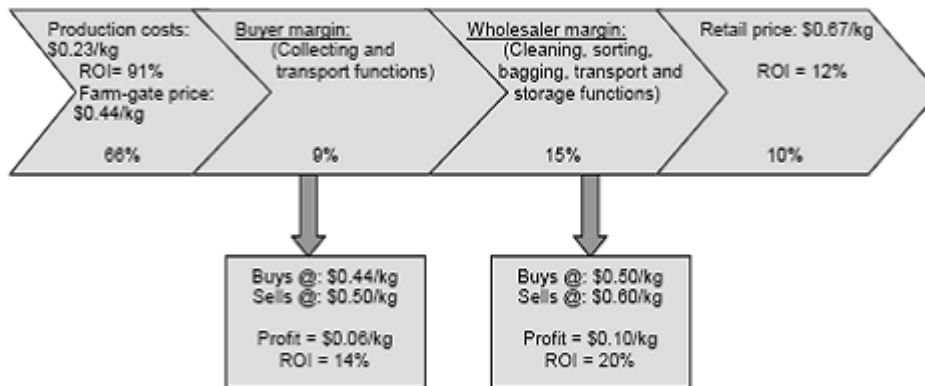
There is currently a lack of clarity in the requirements from USAID in terms of Indicators for the Program and in particular for the Mungbean Initiative. Based on reviews of relevant program documents, discussions with Team members and the requests on the part of USAIDD/DAI for the contribution of data which can be added to overall country impact reporting the following draft monitoring table has been prepared.

Table 4 Suggested Monitoring Framework for Future Commodities Initiatives

Name of Program Component	Commodity Marketing Initiative
Output Level	Indicator
Beneficiary	<ul style="list-style-type: none"> • Number (#) • Wealth (house type) • Distance to Market (kms) • Previous Cash Crop (crop name, value of total sales and price per unit) • Point of Sale (District market, farm gate, other) • Volume of Cash Crop Sold with DSP Assistance (crop name, value of total sale, price per unit)
Trader	<ul style="list-style-type: none"> • Volume of past sales (kg/crop) • Number of New Suppliers (farmers per new Suco) • Volume of current sales (kg/crop) • Increase in non commodity income (number of purchase visits which included non commodity item sales)
Technology	<ul style="list-style-type: none"> • New technologies tested (#, test data proving efficacy) • Farmers adopting (#) • Resulting Impact per Adopter (increase production kg/ha or decrease losses per month/household)

FILLING THE BUYER ROLE

Figure 13: West Timor Value Chain for Mung Bean



Source: Market Survey by Study Team, October 2005.

The Buyer role in TL is poorly understood. It is known that West Timor wholesalers buy through their 'networks' and that these networks take supplies such as rice and oil from District capitals to the Sub-District purchase sites when suitable commodity quantities are available for purchase. Thus traders travel to Sub-District sites and cover their transport costs by back hauling.

The DSP Mungbean Initiative has been effectively expanding the range of domestic traders by acting as their buyer, i.e. networking with the farmers, negotiating prices and arranging for sufficient volumes to be collected in one place to warrant the domestic trader paying pickup transport costs. Farmers claim that the traders offer them a farm gate price which is 5c/kg less than that offered at their shop front in Suai.

Future work by DSP Mungbean Initiative staff should develop investigations in two directions:

- Encourage and accompany traders when making commodity purchasing trips outside of Suai Kota Sub-District.
- Investigate the extent Sub-District based buyers already exist,

FUTURE AMOUNTS OF SEED DISTRIBUTED

It was first assumed by the DSP project staff that a lack of suitable seed was a barrier to larger production areas of mungbeans. It is more accurate to say that the barrier is actually a lack of suitable seed *at a low price*.



Figure 1 Hierarchy of Seed Sources Following DSP Mungbean Seed Distribution 2007

What the DSP Seed Distribution effectively did rather than being the only source of mungbean seed, was offer seed at the lowest market rate. The low price and lack of risk made the 1:2 loans very attractive but might also have displaced some smaller businesses, such as the *fahe hasil* seed loans.

Recommendation: Study the importance of farmer to farmer seed loans with a view to supporting this rather than DSP seed loans

It is clear that the amount of mungbean seed being distributed by DSP is being shared to other farmers by the recipient. This might be because it is either:

- The seed supplied was generally more than most farmers' requirements, i.e. the planting rate has been incorrectly estimated or the rate varies between communities.
- Familial ties and patronage lines in these farming communities dictate some seed must be shared by the recipient to his/her family regardless of the amount received.
- There is some profit or benefit to be had by on-sharing the seed.
- A mixture of the three above reasons.

For the purposes of improving farm household incomes it is not important that DSP adjust the amounts of seed shared, try to better describe variations in planting rates amongst the participating communities or describe the patronage lines along which seed is shared.

Recommendation: Carry out 4-5 plantings with the women for a whole hectare to assess actual per hectare planting rate under farmers conditions.

Instead two variables need to be included in future monitoring and reporting activities, particularly at the Seed Distribution Phase.

1. Secondary Distribution: Did the farmers share any of the seed they received with family or friends? Who are these people and where do they live.
2. Income from Secondary Distribution: If they did share this seed what were the terms of the loan (gift, 1:1 loan, *fahe hasil* loan).

Once the number and nature of secondary seed distribution recipients has been documented DSP staff can assess the need for visiting some of these farmers to verify the information and estimate the additional incomes created by these activities.

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Appendix 1

SOW Technical Field Assistant

Consultant Name:	TBD
Position:	Field Assistant (Technical)
Contract Name:	
Contract Number:	
Period of Performance:	March 2008 to March 2009
Maximum Level of Effort:	240 total days
Travel Days:	0 days
Work Days:	240 days

Background

Dezenvolve Setór Privadu (DSP) is a USAID funded program implemented by DAI. The program is focused on stimulating private sector growth through strengthening the enabling environment, the financial and commercial services, and identifying potential for growth in sub-sectors of the economy, particularly agribusiness.

Developing agribusiness in Timor Leste will be dependent on identifying viable products that are in demand in internal or external markets, and ensuring that trading networks are in place to link producers with buyers. DSP has been looking for opportunities to support expansion of export commodities as mungbeans and peanuts, for the past year.

Indications are that both the farmers and the buyers have poor linkages and limited confidence in each other. Currently the Agribusiness Specialists perform address this limited confidence by performing a community mobilization role. That is, they provide farmers with seed loans necessary to increase their planting areas, monitor the growth of crops and provide yield and harvest timing information to local wholesalers who are not present at the village level.

Objective

The Technical Field Assistant (TFA) position provides support to DSPs Agribusiness Specialists, who promote production of commercially viable quantities and quality of cash crops commodities. In particular carry out community mobilization in order to assist mungbean and peanut buyers and wholesale purchasers expand their connections with producers.

Detailed Tasks

The Technical Field Assistant will support DSP in its agricultural initiatives related to cash crop commodities . This is a field based position, with the person spending 65% of his/her time in the field.

Community Mobilization for Mungbeans

Technical assistance and community mobilization to the farmer/ farmer groups in Cova Lima who participated in the mungbean expansion program this year, including:

- Harvesting methods data collection
- Post-harvest storage techniques and data collection
- Collect yield samples from locations to provide basis for more accurate planning and income predictions from mungbean crops using different production techniques
- Market linkages with wholesalers

Expand Mungbean Program

Replicate and expand technical assistance to mungbean farmers

- Provide limited assistance and monitoring to the initial 317 farmers in Cova Lima to repeat mungbean production during the 2008 growing season
- Identify and collect data on the new farmers to participate in the expansion initiative.

TA for Peanuts

Trial peanut production arrangements with farmers selected from the participants in the initial mungbean program, including:

- Promote production.
- Facilitate linkages between selected farmers and buyers to trial commercial scale production of peanuts
- Assist selected farmers with small-scale production, harvest and marketing of peanuts

Supervision

Reports to the Agribusiness Advisor via the Agribusiness Specialists involved in Commodities (William Bere Ati)

Appendix 2

Questions for Mungbean Farmers

Naran		Suco		Aledia
Group		Sub District		
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female	Tinan?	<input type="checkbox"/> <18, <input type="checkbox"/> 18- 30, <input type="checkbox"/> >30	

To'os nia Luan ____m X ____m =_____m ²	Hanesan dB ka lae? <input type="checkbox"/> Los <input type="checkbox"/> Lae	Status iha Groupu <input type="checkbox"/> Ketua <input type="checkbox"/> Angota Se Ketua Membrus hira iha groupu? _____ Hanesan DSP dB?
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Agronomy

Farmer land preparation	<input type="checkbox"/> lere deit <input type="checkbox"/> fila ho liman <input type="checkbox"/> fila ho tractor <input type="checkbox"/> seluk_____
Servisu Groupu?	<input type="checkbox"/> hamos du'ut iha groupu <input type="checkbox"/> hamos du'ut mesak <input type="checkbox"/> panen hamutuk <input type="checkbox"/> panen mesak
Number of weedings	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> sempre ha mos du'ut

Avo Sira

Before working with DSP did they sell anything? If yes, what?

If mungbeans yes where did they get the seed; buy, store rasik, loan?

If mungbeans yes how many sacks ?

If mungbeans yes how did they get the product to market?

Now with DSP

How much mungbean did they receive from DSP? How many sacks?

Brochure DSP Hetan ka lae? <input type="checkbox"/> Hetan <input type="checkbox"/> Lae Se hetan <input type="checkbox"/> Sei Iha <input type="checkbox"/> la iha	Fahe fini Husi fini ne'be DSP mak fo ona, ita boot fahe balu ba maluk sira ka lae? <input type="checkbox"/> Fahe <input type="checkbox"/> La fahe Se fahe Ba ema nain	Tinan Kotuk Uja ? (2007) Fertiliser <input type="checkbox"/> Yes <input type="checkbox"/> No Herbicide <input type="checkbox"/> Yes <input type="checkbox"/> No
--	---	---

	hira: _____	^
--	-------------	---

Which mungbean seed variety did they receive? (From MSExcel)

Were the mungbean seeds you received OK? Anything you liked or did not like about them?

Yields	Panen saku hira? _____ Fa'an saku hira? _____ DSP Record _____
Harvest	<input type="checkbox"/> panen dala ida <input type="checkbox"/> panen ituan ituan

Are these figures the same or not?

If not selling why not?

Post-harvest	
Aggregation of product by farmers	
Buyer arrangements	
Seed storage	Method?

Have they recieved B-S-G?

Is it being used? If not being used for what right now?

What is the quality of the stored seed? Weevils? Germination tests?

Appendix 3

Listing Survey 2007 - 2008

Member		Suco	
Group		Sub District	
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female	Age	<input type="checkbox"/> <18, <input type="checkbox"/> 18- 30, <input type="checkbox"/> >30
GPS Code	<input type="text"/> <input type="text"/> ° <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> S <input type="text"/> <input type="text"/> <input type="text"/> ° <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> E		Elevation

Ense perguntas hotu hotu, heli ida deit!

Familia Nain Hira	House Type	DSP Ajuda ho Saida
Ema nain hira han hamutuk husi dapur ida? <input type="checkbox"/> ___ Mane ___ <input type="checkbox"/> ___ Feto	(NB: hela fatin laos uma to'os) <input type="checkbox"/> White block <input type="checkbox"/> Half block <input type="checkbox"/> Grass/ Traditional	<input type="checkbox"/> Fini mungbean <input type="checkbox"/> Fini peanuts <input type="checkbox"/> On Farm Trial Peanuts <input type="checkbox"/> On Farm Trial Mungbean <input type="checkbox"/> Habarak fini foun <input type="checkbox"/> Technical assist crop man. <input type="checkbox"/> Storage <input type="checkbox"/> Marketing

Historia						
Tinan liu ba system servisu ?	Kuda cash crop sa'aida tinan liu ba?	Se kuda cash crop iha tinan liu ba, fini husi ne'be?				
<input type="checkbox"/> Nain rasik <input type="checkbox"/> Halo groupu (hakabak) <input type="checkbox"/> Selu ema	<input type="checkbox"/> Forerai <input type="checkbox"/> Fore mungo <input type="checkbox"/> Fore seluk	<input type="checkbox"/> rai fini rasik <input type="checkbox"/> sosa iha merkado <input type="checkbox"/> hetan husi <input type="checkbox"/> hetan husi trader familia <input type="checkbox"/> hetan husi NGO				
Soil Type			Soil pH	Textur Rai¹		<input type="checkbox"/> Heavy Clay (Liat Padat)
<input type="checkbox"/> Mutien	<input type="checkbox"/> Kopi susu	<input type="checkbox"/> Mean	Soil Preparaton (iha tinan ne'e)	<input type="checkbox"/> Sandy (Berpasir)	<input type="checkbox"/> Sandy Loam (Lempung Berpasir)	<input type="checkbox"/> Silty Loam (Gelu Lumpur)
<input type="checkbox"/> Metan	<input type="checkbox"/> Choclat	<input type="checkbox"/> Kinur		<input type="checkbox"/> Fila rai <input type="checkbox"/> Lere deit <input type="checkbox"/> Ai moruk	<input type="checkbox"/> Loam (Lempung)	<input type="checkbox"/> Clay Loam (Liat Berlempung)
To'os nia Luan	Trans Land	Slope	Rai foun Ba cash crop 2007 ita boot sira loke rai foun ka lae ?	Intercropping Ba cash crop 2007 ita boot sira kuda kahur ka lae?	Tinan Ne'e Uja ? (2007)	
_____ m ²	<input type="checkbox"/> Los	<input type="checkbox"/> Rai tetuk	<input type="checkbox"/> Yes	<input type="checkbox"/> Kuda mesak	Fertiliser <input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Lae	<input type="checkbox"/> Lolon <input type="checkbox"/> Terrace	<input type="checkbox"/> No	<input type="checkbox"/> Kuda kahur	Herbicide <input type="checkbox"/> Yes <input type="checkbox"/> No	