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Minister Promotes Income Earning Opportunities for Farmers

The Minister, His Excellency Mariano Assanami Sabino, said that one of the new Government's main objectives was to improve food security for the rural population of Timor-Leste and part of this was to create opportunities for farmers to earn income from diversified farm production.

The Minister said that there was an opportunity for farmers to grow more mung beans as a source of high protein food for nutrition programs and as a cash crop for the domestic and export market.

The Minister also praised the efforts of the private sector company Timor Global, who is working hard with the US Aid funded private sector development project DSP to increase the production of mung beans in Suai. Timor Global, private traders, and DSP are working with more than three hundred farmers. This effort is also supported by the Agribusiness Directorate of MAF, headed by Mr. Adelino Rego.

The Minster said that a priority of Government was to increase the proportion of MAF staff working in rural areas. Whereas now 50 percent of staff in the Ministry worked in Dili, this would soon change so that 70% of MAF staff would be based in rural areas and only 30% should be based in Dili. This would make sure that the work of the Ministry was done in the rural areas with farmers rather than by office staff in town. This would make the work of the Ministry more relevant for farmers.

The government would encourage more cultivation by subsidizing the cost of ploughing for at least 5,000 hectares of cultivated land.

Rice production would be improved using the successful Integrated Crop Management (ICM) program introduced by the Agribusiness Directorate and GTZ (German Technical Cooperation Agency). The Government intends to increase the number of extension workers to 3 (three) extension staff in each sub-district with good potential for rice production, and at least 2 (two) extension worker in all other sub-districts.

The Minister of Agriculture inspects mung beans being grown by farmers in Covalima

C O N T E N T S *Page*

Contract Growing of Commercial Crops for Export Needs to be Better Understood by Farmers

In order to increase the amount of money in their pockets, Timor-Leste farmers need to grow crops for export. This is because the domestic market is limited in volume and value and there are opportunities for exports crops. Crops already identified with potential for export through West Timor include peanuts, mung beans, cashew nut, and tamarind.

In 1997 East Timor produced 5,500 tonnes of ground nuts (peanuts) of which a small amount was exported. This fell to only 1,660 tonnes by 2002. Peanuts are now imported.

Timor Global, an export company in Dili, now exports coffee but wants to expand into the export of other agricultural crops. They believe they can export over 500 tonnes of peanuts to Singapore and other markets; this is just a start. There is also an opportunity to produce more peanuts for the domestic market. Export markets are competitive and export prices must be competitive with peanuts produced in other countries; however, export markets offer the opportunity to produce much larger volumes for sale.

This year, and since 2005, GTZ in Baucau have helped farmers start commercial peanut production, in larger volumes, for export.

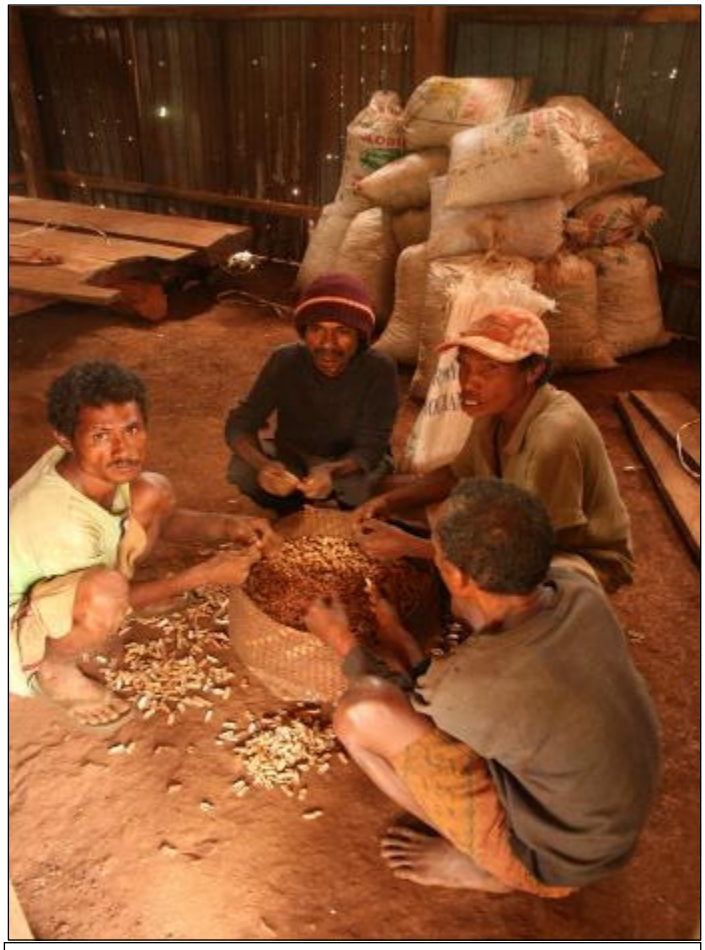
GTZ facilitated an agreement for a growers' contract between the local farmers in Darasula village and Timor Global in Dili. The contract was managed by the Chef de Suco, Mr. Virgilio. The contract was for the production of 20 tonnes of peanuts (without shells) to be grown on 20 hectares of farmers' land. The farmers would receive 40 cents per kilogram for peanuts without the shell, with the crop collected from the farms by Timor Global. No transport cost would be paid by the farmers.

Meetings were arranged by GTZ so that Timor Global could meet the farmers and explain their commitment to buy larger, commercially viable, volumes of peanuts. Timor Global also explained to farmers that they had plans for improved production methods using equipment for land cultivation, mechanized harvesting, and the use of fertilizers. However, for the first contract, the crop would be grown using traditional practices.

All the farmers met with Timor Global and understood the agreement, but the contract was signed on behalf of the farmers by Mr. Virgilio. Mr. Bill Tan, Director, signed the contract on behalf of Timor Global.

Initially, Timor Global wanted to make premium payments based on three grades of peanuts, according to size. Larger peanuts would attract a higher price. However the idea of grading, with a price differential between grades of peanuts, was not attractive to farmers, so a fixed price was agreed at 40 cent per kilogram. The retail price in Dili during 2006 varied between 40 and 50 cents per kilogram, so the price offered seemed fair, based on the Dili retail prices.

Twenty farmers agreed to grow the groundnuts for Timor Global and to sell Timor Global the peanuts after drying and removal of the shells. This was the very first experience the farmers had of selling peanuts to a commercial export company. The contract was signed on the 20th November 2006, for the supply of 20 tonnes.



Farmers in Darasula Village Shell Peanuts

The expectation was that Mr. Virgilio would grow 3 tonnes, the other farmers in Darasula village would grow 12 tonnes, and the other 5 tonnes (to make a total of 20 tonnes) would be purchased from other farmers after harvest.

Mr. Virgilio sold his 3 tonnes of peanuts to Timor Global as agreed in the contract, but the other farmers only sold a total of 1.6 tonnes of peanuts to Timor Global making a total sold under the contract of only 4.6 tonnes. This result is very disappointing. The value of the sales from Mr. Virgilio was $1,200 and from the other farmers only $640.

When the time came to sell their peanuts, the farmers were unwilling to sell to Timor Global for 40 cents per kilogram, preferring to sell small amounts to local traders (in the sack with the shell on) for $5.00 to $6.00 a bag. However, it is believed that some farmers were able to sell their peanuts at higher prices and at the same time keep some for sale later, or for home consumption. Farmers also seem to prefer to keep the crop stored for sale later, rather than to receive a large sum of cash for one

sale of a larger quantity.

On the one hand, we might say that the commercialization project was a failure, on the other hand we should look at all the issues raised to see what lessons can be learned so that future attempts to improve the commercial opportunities for farmers can be more successful.

An analysis of the economics of production shows that farmers should have been able to increase their incomes by selling peanuts at 40 cents per kilogram, after removal from the shell, and make more money doing this than selling peanuts in bags, with the shell on, at $6.00 per bag.

Farmers make 83 cents per labour day selling peanuts, without the shell, at 40 cents per kilogram and a yield at 1 tonne per hectare. However, they only make 60 cents a day if they sell the peanuts in the bag at the market price of $6.00 a bag (Table 1).

Table 1: Relative Profitability for Selling Groundnuts In-the-shell or Out-of-the-shell

Model 1 Hectare	**Peanuts in Shell**	**Peanuts out of Shell**
Gross Income:	**$245** [/2] 1,351 kg in shell	**$400** [/1] 1,000 kg kernel
Variable Costs	73	73
Gross Margin:	**$172**	**$327**
Labour Days	288	392
Gross margin / Labour Day:	**$0.60**	**$0.83**

Notes: 1. Income 1,000 kg kernel at 40 cents per kg.

2. One bag peanuts in shell weighs 33kg and is worth $6.00.

3. When 'shelled', the net weight of kernel is 74% of in-shell weight.

Based on the additional gross margin of $155 per hectare for selling the peanuts without the shell ($327 per hectare compared to $172 per hectare) and the additional 104 labour days required to take the peanuts out of the shell (392 days compared to 288 days) the margin from taking the shell off the peanuts is $1.49 per day at a work rate of 1.2 kg per hour ($155/104 days). This is a higher return per labour day (for taking the nut out of the shell) than for growing the peanuts.

Issues raised and lessons learned:

1. A lot more work needs to be done to ensure farmers understand and honour grower contract agreements. Similar problems, of farmers not honouring their contract commitments, were experienced by the Agricultural Service Centre in Viqueque when farmers, who had agreed to sell mung beans to the ASC on contract, failed to meet their contract agreement and sold instead to private traders.
2. A rigorous analysis of all the production constraints is required to identify whether any changes to traditional practices will cause labour, or other difficulties, for farmers. For example, will changes to traditional practices conflict with other activities? If labour for shelling peanuts had been identified early as a problem for farmers, a decision to provide mechanization may have been possible.
3. Farmers may have a preference to retain crops for sale in regular, small amounts, to meet income needs, rather than have to manage the 'saving' of money after the commercial sale of their entire cash crop. Having a savings scheme available may help farmers manage larger cash incomes.
4. Farmers may be motivated by food security rather than profit. The idea of having food crops available for sale later, or for consumption, may appeal more to farmers than increasing their cash income.
5. Taking the peanuts out of the shell is time consuming, and this work may not appeal to farmers. This work may also conflict with other activities that need to be done on the farm at the same time.
6. Farmers may not be able to quantify the additional income they could receive from shelling the peanuts, so prefer the alternative which is less work – selling in bags with the shell on.
7. It may be necessary for all farmers to enter into the contract agreement, rather than having just one representative sign the agreement on behalf of all the farmers.
8. Having fewer farmers grow a larger area of commercial crop may provide more incentive for the individual farmers to make contracted sales. The larger volumes produced by each farmer may be difficult to sell by other means.
9. The price offered by Timor Global may have been too low at the time the farmers sold their crop; even though it was attractive at the time of the agreement.

According to our West Timor Market Study, peanuts can be profitably sold in West Timor at a break-even (top) wholesale price in Dili of 66 cents per kilogram. After deducting 2 cents a kilogram for the cost of transport ($20 a tonne) from Baucau to Dili, this is equivalent to 64 cents a tonne in Baucau; but this is before allowing for any trader's profit margin.

Timor Global, an export company in Dili, now exports coffee but wants to expand into the export of other agricultural crops. They can export over 500 tonnes of peanuts to Singapore and other markets.

Export markets are competitive, so export prices must be competitive with peanuts produced in other countries. However, export markets offer the opportunity for Timor-Leste farmers to produce much larger volumes for sale.

Expert from Lombok to Make Recommendations for Village-Based Cattle Development

Timor-Leste already exports cattle and buffalo through West Timor to other parts of Indonesia. The Indonesian market for cattle is almost unlimited and there is an enormous opportunity for Timor-Leste to increase the number of cattle it exports to that country. Although cattle are now exported as live animals, and in the short-term this will continue to be the main form of livestock export, there is also an opportunity to export meat later.

The productivity of Timor-Leste cattle needs to be improved so that there are more young animals available to fatten to export weights (over 280 kilograms per animal). Right now there are not enough young animals available and existing exporters (such as CCT) cannot find enough young animals for the farmers who participate in their cattle fattening scheme.

The areas that need to be improved are: To increase the number of calves born to cows each year; to improve the growth rate of calves; and to better match the time of calving to the available feed supply.

An expert from Lombok in Indonesia, Dr. Dahlanuddin, visited Timor-Leste in October to recommend how a village-level project might be implemented using appropriate technology for Timor-Leste conditions. Dr. Dahlanuddin has many years experience working with the Australian Centre for International Agricultural Research (ACIAR) in Lombok, Sumbawa, and Australia.

Dr Dahlanuddin inspects young beef cattle fed on a mix of crop by-products

During his visit, Dr. Dahlanuddin made a presentation, to MAF Livestock and Agribusiness staff, on the work ACIAR and the University of Mataram are doing in Lombok and Sumbawa to improve the performance of beef cattle using a participatory approach in villages. He also visited villages in Lois, Los Palos, and Alieu to assess opportunities for a similar type of project in Timor-Leste. MAF and Dr. Dahlanuddin have now prepared a proposal to support two village-level interventions in Lois and Los Palos.

MAF staff visited Lombok in December to work with Dr. Dahlanuddin to refine the project plan and to see for themselves what has been achieved in Lombok.

In Lombok, Dr. Dahlanuddin has improved the use of feed supplies available in villages, by making better use of by-products such as maize stover, rice straw, rice bran, and peanut vines.

The proposed project in Timor-Leste will improve cattle production using technologies which include:

a. Recording animal performance,
b. Breeding improvement through bull selection,
c. Control of mating time to synchronize calving with feed supply,
d. Improved nutrition using legume forages and crop by-products.

The *criteria* for the selection of villages are:

1. The community is motivated to work with MAF to improve their management of cattle using the technologies listed above;
2. Income from cattle is an important source of income for the community
3. The communities are accessible and MAF District staff have the capability and motivation to work with the community to improve cattle production
4. There is a realistic expectation that time of mating can be controlled so that the time of calving can be modified to occur at the same time as feed supply is available for calves and lactating cows
5. There are no land or property disputes that could affect the success of the project.

Because of the length of the breeding cycle, the project will take time to achieve results so a time-frame of at least five years will be needed to demonstrate significant benefits to farmers. The initial benefits of improved calving should be observable after the first year, as well as the benefits of village based cattle recording and monitoring.

Cattle can be one of Timor-Leste's biggest export earners, in the long-term. There is unlimited export potential to Indonesia.

Successful First Year for Commercial Rice Production using ICM

A project to commercialize rice growing in Timor-Leste, using Integrated Crop Management (ICM) technology, was implemented by MAF Agribusiness and GTZ from Maliana and Baucau. GTZ funded the project.

Rice yields have increased, less seed is used, and the system requires less labour.

Director of Agribusiness, Mr. Adelino Rego, said he "was delighted with the success because the project has demonstrated that Timor-Leste can eventually achieve self-sufficiency in rice production and grow rice competitively with other Asian countries". He particularly praised the work of Mr. Jose Barros and Mr. Benjamin Guterres who were the team leaders in Maliana and Baucau. "Without the dedication of our Timorese managers, who ensured everything happened correctly and on time, we would never have been able to achieve what we have".

Mr. Rego also recommended to the Minister of Agriculture and to Mr. Guenther Kohl, Country Director for GTZ, that ICM should be promoted across Timor-Leste to other farmers as a matter of priority. This will now happen.

The major achievements have been:

- 172 farmers using ICM in Maliana, Atabai; and in Eastern Districts,
- 72 ha planted in ICM rice,
- 14 Extension Staff trained (8 in Maliana, 4 Baucau + 2 coordinators).

Technical training for the Extension Staff was provided by Professor Richard Ogoshi, from the University of Hawaii, and Dr. Balasubramanian, a Freelance Consultant previously with the International Rice Research Institute in the Philippines. This was supported on the technical side for field activities by Mr. Michael Jones from GTZ, and managed by Jose and Benjamin.

.....Continued page 6

What is ICM?

ICM is a simple technology that uses planting of vigorous, single, young seedlings, in lines for rice with the controlled use of inputs, according to plant needs.

Key features of ICM practices include:

- A "matt" nursery that prevents the deep-rooting of rice seedlings and makes for easier transplanting,
- Wide spacing (20 to 25cm x 20 to 25 cm) which allows each rice plant optimal access to nutrients and sun which maximized yield. This also reduces the number of seedlings required per hectare, and allows for mechanical weeding between rows,
- Less planting labour, and less seed, as a result of the reduced number of seedlings (only one vigorous seedling is planted at each planting station) using the wide spacing,
- Weed control, using a simple mechanical weeder that has been fabricated in Timor-Leste,
- Fertiliser (Urea, Triple Super Phosphate - TSP, and Potassium Chloride – KCl, if a reliable, safe source is available) applied according to plant needs. The amount of nitrogen required is determined from a leaf colour-chart, where the colour of the leaf, for a particular variety, is used as an indicator of the amount of nitrogen required by the rice plant,
- Pest and disease control according to an assessment of cost and risk.

Using the Leaf-Colour Chart to Make Recommendations for Nitrogen Fertilizer Application Rates for a Rice Crop

Timor-Leste has 48,000 hectares of functional irrigation schemes and another 23,200 hectares which can be rehabilitated. Producing another 1 ton per hectare, on the existing functional schemes, would produce additional rice equal to the current quantity imported. This can be achieved using the ICM technology already proven in Timor-Leste, and popular with farmers.

…..Continued from page 5

The ICM technology reduces the amount of labour required to grow rice, significantly increases yields, and improves grain quality (grain size is more even and milling losses less).

The benefits of improved rice production include:

- Improved political stability from greater self-sufficiency in rice production,
- Higher incomes for farmers who will be able to sell the surplus production not needed for on-farm consumption,
- Greater food security,
- Rice produced here, in Timor-Leste, to replace the 48,000 tonnes currently imported,
- A saving of $15 Million in rice imports.
- Improved employment opportunities in rural areas as a result of increased rural incomes and opportunities for commercial crop production from rice or from crops grown on the areas no longer required for subsistence rice production.

However, there are still many challenges which need to be addressed for this extra rice production to be efficiently marketed, with the technology applied across Timor-Leste. These challenges include:

- Better Irrigation scheme maintenance and management,
- More effective research and adaptive management for Timor-Leste conditions,
- Improving the capabilities of extension workers,
- Reduced bureaucracy in Government and MAFF/ MAFP,
- The multiplication and distribution of improved seed,
- Introducing strategic mechanization (hand tractors, threshers),
- Improved access for farmers to farm input (fertilizer, seed, agricultural chemicals, machinery & equipment),
- Better post-harvest storage and processing,
- An Agricultural policy to support the rice industry by using some of the tax on imported rice to fund rice extension, training and adaptive research,
- More efficient transportation and better roads.

Three *key objectives have been agreed to help achieve this*:

1. Carry out a **Value Chain Analysis** with key stake holders to identify issues, impediments, and the formulation of strategies to improve production and marketing from '**plough to plate**' and who will implement initiatives.
2. Carry out a **Training of Trainers** in technology and extension. This started at the end of August 2007. This will provide a package of extension materials that can be used for further knowledge development and training for (a) Certified Trainers in Commercial Rice Production and Extension Methods; (b) a curriculum for Agricultural Schools; (c) a Secondary School Training Module.
3. Establish a **Commercial Rice Board,** with inter-organizational representation, to oversee the commercialization of rice production in Timor-Leste. The chairman should be the Minister of Agriculture / Secretary of State for Agriculture.

It is planned to have at least 1,000 farmers using the ICM commercial rice production system by the end of 2008.

Key Results

The results show that:

- 22 less labour days are required per hectare (a saving of about 20% in labour)
- An increase in return per family labour day from less than $1.00 per day to $2.20 - $3.60 per day, (at 2007 rice prices)
- An increase in yield from less than 2.5 tonnes per hectare, using traditional systems, to 3.5 or more than 4.00 tonnes using ICM. This result has been achieved in the first year of application when both extension staff and farmers were still learning, hampered by late rains, low in-season rainfall, and high infestations of grasshoppers. Yields above 5 tonnes per hectare can be achieved,
- An increase in Gross Margin per hectare of $180 per hectare,
- Farmers are very excited to use the new technology: Farmers not participating in the pilot project have tried to copy the ICM farmers, and originally-skeptical farmers have changed their thinking and want to use ICM.
- Timor-Leste can successfully compete with other Asian countries for rice consumed for domestic consumption in Timor-Leste.

STOP PRESS: **With current rice prices and a yield of 3.5 T/Ha, ICM gives a return of $8.91 per Labour Day compared to $3.09 for traditional practices and a yield of 2.5 T/Ha**

Soya Beans - Commodity Profile Now Available

Just published is the Commodity Profile for Soya Beans. This is the second Commodity Profile in the series; the first is for rice.

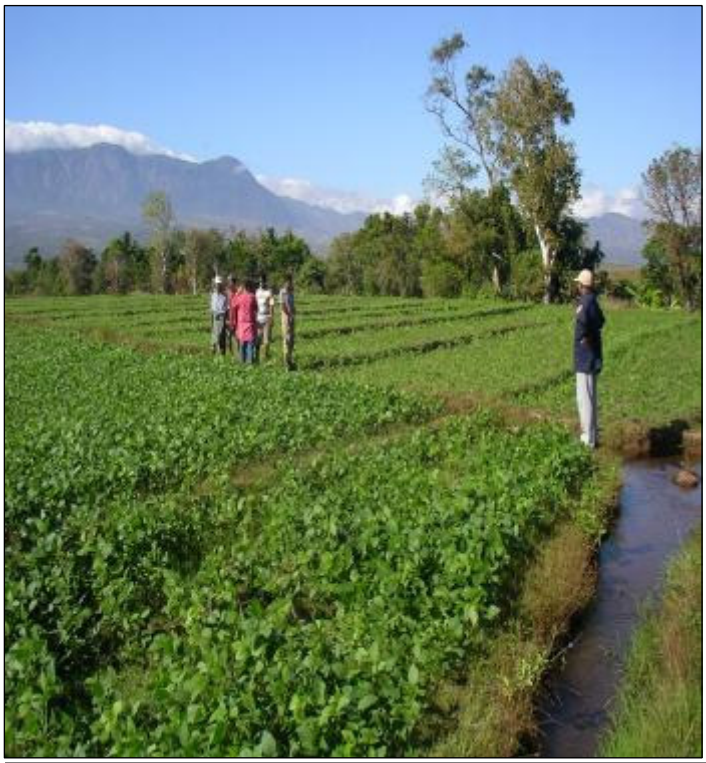
Commodity Profiles will be produced for all the most important crop and livestock enterprises in Timor-Leste. Others, soon to be completed, include: Mung Beans, Maize, Groundnuts, and Cattle.

For consumption by humans, soya beans are processed into Tofu and Tempeh, and both of these are produced in Timor-Leste. Soya milk is also produced from soya beans. Containing 40% protein, soya beans are a cheap and nutritious food. The need for processing means that soya beans tend not to be wanted by NGOs for emergency feeding programmes; for this mung beans are preferred.

Aileu produces half the total production of soya beans grown in Timor-Leste and the soya beans produced in Maubise are the most favoured by the local buyers to produce tempeh and tofu.

Current consumption of soya beans in Timor-Leste is about 840 tonnes, but only 102 tonnes are produced in Timor-Leste. This means that about 738 tonnes are imported. The imported soya beans come mainly from Indonesia, although much of these are re-exports of soya beans that come first from the USA. Most of the USA-grown soya beans are from genetically modified crops.

In 1997 Timor-Leste produced 1,686 tonnes of soya beans but in 2002 this had dropped to only 102 tonnes; less than 10% of the 1997 production level. Not only did the area of soya beans decline, but so also did yield per hectare.



MAF Agribusiness Staff talk to Farmers in Maliana about their Soya Bean Crop

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Director of Agribusiness, Mr. Adelino Rego sees this as an opportunity for Timor-Leste farmers. He said "Soya beans can be grown on irrigated land after rice. They make a good second crop and need less water than rice and, because they are a legume, they improve soil fertility by providing the soil with nitrogen". Mr. Rego says that the Agribusiness Directorate is promoting soya beans to farmers so that production in Timor-Leste can provide most of the 840 tonnes now consumed; this will reduce the amount of soya beans which need to be imported.

There are three active tofu producers in Dili and many tempeh producers. Tempeh is easy to make and is done by individuals at home. Production of tofu is more complicated and needs more equipment; consequently there are only a few larger processors of tofu.

There is strong demand for soya beans, in particular by China. There is also a strong demand for oil crops (such as palm oil, rape seed, sunflower) for the expanding bio-fuels market, so prices for soya beans should remain high. This will create a good opportunity for Timor-Leste farmers to grow soya beans for the domestic market. Because of the competitive nature of international markets, it is unlikely that Timor-Leste will ever export soya beans.

WHAT ARE COMMODITY PROFILES?

Commodity Profiles provide an overview of important crop and livestock enterprises in Timor Leste. They outline opportunities to improve productivity and product quality that can reduce the trade deficit through import substitution or export.

Commodity Profiles cover the economic and production aspects of commodities; they are not "How to Grow" manuals.

Commodity Profiles are "Living Documents"; they will be updated and improved when new information is available. Contributions and suggestions for improvements are welcome. Please send comments or content to:

AgribusinessTL@yahoo.com.au

More Agricultural Business Activity Needed in Districts to Improve Farmers' Incomes

There is plenty of opportunity for farmers in Timor-Leste to increase their incomes, but this means more trade in farm products for the domestic and local market. For the local market, this can include an increase in rice and soya bean production; both these crops are imported and Timor-Leste farmers can produce competitively for the domestic market. There are also opportunities for the export of crops to West Timor, for mung beans, peanuts, tamarind, cashew nuts; a lot more cattle can also be exported.

The Agribusiness Directorate is promoting the production of mung beans, peanuts and soya beans, but there are many challenges to do this successfully. We are also working to initiate a village-level project to improve the productivity of cattle.

Farmers do not have a good understanding of contract farming. If they enter into an agreement to produce crops for sale, many farmers prefer to sell to traders offering the highest price, at the time of the sale, rather than honour contracts that may offer better opportunities in the longer-term. Contracts may not always offer the best price, but they can offer certainty about prices, as well as guarantees for the sale of larger volumes.

The emergency situation last year, which saw NGOs and international organizations buy crops for emergency feeding programmes, tended to undermine the attempts to start contract farming because the NGOs bought crops farmers had contracted to sell to the Agricultural Service Centers (ASCs).

In 2002, three Agricultural Service Centers were established in Timor-Leste, in Maliana, Viqueque, and Aileu. Only the Maliana and Viqueque ASC still operate and, of these, the Maliana ASC has been the more successful - mainly because farmers in Maliana are more commercially motivated.

A significant problem is the small volume of current business; it is difficult for the ASCs to become viable with the small volume of existing trade. Viability can only be improved if total business turnover is increased.

How can this happen?

The ASCs were originally intended to support farmers, by providing farm inputs, transport services, and marketing. Experience has shown that much more than this is needed. Also required is new production technology (such as ICM for rice, better quality soya bean seed, short growing-season varieties of mung beans) to improve yields, effective farm extension, contract-farming management, links to private sector traders and markets, credit, post-harvest storage, capacity building for farmers, traders and for local government institutions. Farmers also need to be better organized.

The ASCs were intended to become profitable trading enterprises, but is it reasonable to expect this when much of the role required of them is of a not-for-profit nature.

After an intensive study/1, the Agribusiness Directorate of MAFF have concluded that the ASCs, or something like them, are still needed to act as a catalyst for the commercial development of agriculture in Timor-Leste (to put money into the pockets of farmers) and a recently completed Marketing Study in West Timor/2 has validated this belief by proposing an expanded role for the ASCs. The study recommends the ASCs fulfill the following roles for key commodities with market opportunities in West Timor:

- Manage and promote contract-farming agreements for crop production and supply.
- Establish locally, private buying networks to purchase commodities in bulk for sale in West Timor and other markets.
- Dry commodities to the correct moisture content, clean, sort (or grade), and to some extent process commodities (e.g. de-seeding tamarind), and bag into 50kg ASC logo bags.
- Act as the national and international wholesaler, to provide transport, storage and primary mechanical processing facilities to add-value and reduce transport volume.
- Sell at the West Timor border to traders from Atambua, and establish border storage and trading centers.
- Ensure strict quality control on commodities destined for export, to facilitate telephone trading without the need for visual inspection.
- Store produce for sale to West Timor at the time when prices are highest, November to February. This will require drying, stock control, and fumigation to preserve product quality.

Some argue that the private sector are best able to deliver the improved living standards Timor-Leste seeks; but right now many of these functions cannot be fulfilled by the private sector or by through ineffective government services.

Figure 1 shows how the private sector and farmers can work with the Agricultural Service Centers in the process of farm production, post-harvest management, and marketing. All have a role, but not all functions can be fulfilled by a small private sector (itself still in need of nurture) and farmers (still requiring new skills, technologies and markets). Even if farmers and the private sector are able to meet their own obligations, there is still a residual role that needs to be met by a not-for profit sector, whether this be NGO, Donor Project, Government, or the ASCs.

The agribusiness directorate believes the ASCs can still fulfill these needs, but that they need to be properly supported with effective technical assistance. Some existing roles could involve more private sector activity, more can be done by farmers, but there is still a need for a public sector involvement to stimulate growth and this is a not-for-profit role.

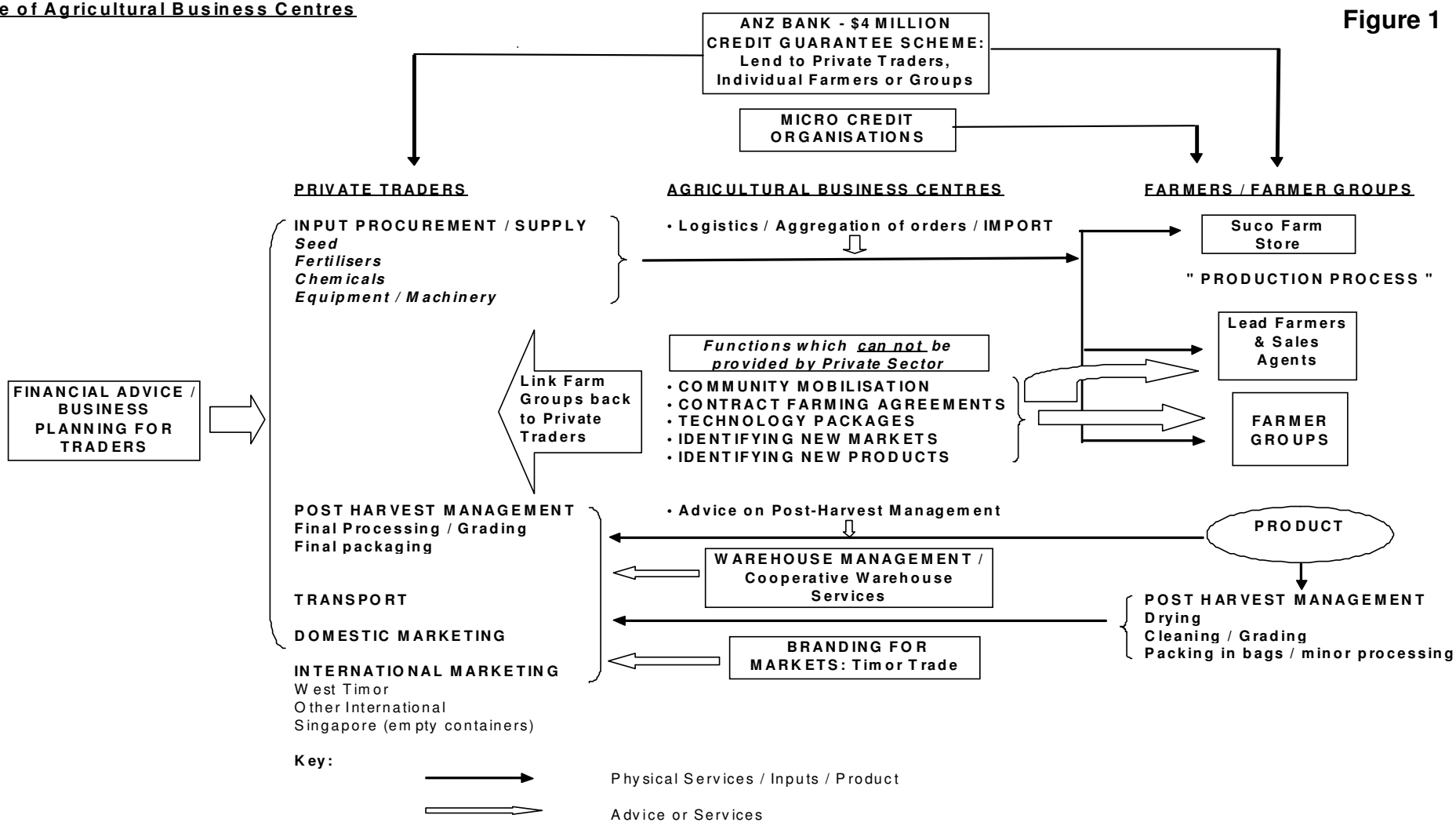
References:

/1. Restructuring the Agricultural Service Centers to Achieve Timor Leste's Development Goals, Agribusiness Division, MAFF/MAFP, April 2006

/2. West Timor Market Study, GTZ for Agribusiness Division, MAFF/MAFP, October 2006

Role of Agricultural Business Centres

Figure 1



Agricultural Business Centres (ABCs) support farmers and private sector by mobilising farmer groups and linking farmer proups with private sector traders to better coordinate input supply, product collection and marketing. By working through Farmer Groups, ABCs help farmers with contract farmer agreements (rice, mung beans, soya beans); help identify new opportunities for trade (e.g. West Timor Market Study); provide simple adapted technology packages and for new crops (e.g. soya beans). They also coordinate the procurement and importation of farm inputs (seed, fertilsers, chemicals, farm equipment) for private sector farm input suppliers and farmer owned Suco Stores. Overall role is support for private sector traders and farmers rather than the physical trading of inputs. Another role might be the provision of post-harvest management and warehouse services if this cannot be done by private sector in the short-term. Another role is to identify the quantities of farm inputs needed with farmers so that importation of these inputs is organised in a timely manner in the correct quantities.

Private Traders provide the physical inputs (seeds, fertiliser, etc.), transport and market products to the domestic market and to West Timor. International marketing is likely to be through the larger private sector traders in Dili, such as Timor Global.

Farmer Groups coordinate wth ABCs to implement contract farming agreements, to supply inputs through Suco Farm Stores, and to agreegate produce for marketing. If appropriate, post-harvest management is carried out by farmers and produce is aggregated for sale to private sector traders.

ANZ provides credit for larger loans (above $3,000) so that private sector traders have access to credit for crop purchase and input supply orders. ANZ may also lend to Farmer Groups or entrepreneurial farmers for the purchase of farmer equipment (hand tractors, threshers, etc.) or for new enterprise development.

Timorese Metal Workers Make High Quality Mechanical Rice Weeders

High quality rice weeders, for weeding between wide spaced rows of rice, will soon be manufactured in Timor-Leste. Over 500 weeders will be manufactured in 2007 and another 1,000 or more in 2008. The weeders are used in the growing of high yielding commercial rice using Integrated Crop Management (ICM) and yields of 5 tonnes per hectare can be achieved by farmers.

MAF Agribusiness, JICA, GTZ, and the USAid funded Private Sector Development Project (DSP) funded training for the fifteen Timorese engineering workers from Maliana, Suai, Baucau, Dili and Manatutu.

Mr. Stanislau, from the Costa Motors workshop in Baucau, said "My staff have learned a lot from this training. Last year we copied weeders for GTZ but this training will help us make better quality machines and the work is better planned to make it faster. This faster way of working, to make large numbers of weeders, will help reduce the time taken to make each weeder and reduce the overall cost to farmers". About one half the costs of the weeders is materials and about half labour. With improved manufacturing the labour cost can be reduced to one third of the total cost.

Trainees cut the metal plate for the 'cones' of the conical weeder

Mr. Castro explains design concepts to the trainees

The training was conducted by Mr. Eugene Castro Junior from the Philippines. Mr. Castro is the Senior Engineering Technician from the International Rice Research Institute in the Philippines.

In 2006, GTZ and MAF Agribusiness trained extension agents in Maliana and Baucau in ICM technology for growing rice. In 2007, 172 farmers in Eastern and Western Districts used ICM practices to grow rice with good results. ICM is again being promoted by GTZ and MAF in 2007/2008 with the training of more extension staff and the aim is to have 1,000 farmers grow rice using the ICM technology in 2008.

Trainees have been taught how to make two types of weeder: the conical weeder and the rotary weeder. The two types cater for different soil conditions. The training was carried out at Don Bosco Training Centre in Dili. By coincidence, Mr. Castro, the training expert from the Philippines, was also trained by Don Bosco, in the Philippines. "I was very excited to come to Timor-Leste to contribute to this project", he said "and working at Don Bosco makes me feel at home".

"One Village One Product" - Project Formulation Mission to Thailand

A Study team visited Thailand to formulate a project for the "One Village One Product" (OVOP) movement. The visit took place between 10th to 17th December 2007.

The study mission was organized and funded by the Japan International Cooperation Agency (JICA) and involved representatives of JICA, the Government of Timor-Leste, project leaders of Japanese NGOs based in Timor Leste (Peace Wings Japan and National Young Christian Association (NYCA))

The mission representatives were (i) *Mr. Adelino Pimentel do Rego*, Director of Agribusiness, as the government representative, (ii) *Mr. Yoshikazu Wada*, Assistant Representative for JICA in Timor-Leste, (iii) *Mr. Tomoaki Kanamura*, Project leader of Peace Winds Japan, and (iv) *Mr. Hideki Ishibashi*, Project Coordinator for NYCA Timor-Leste. The objectives of the mission were to present the needs and identify possibilities for cooperation, exchange information, and observe cases of OVOP in Thailand. A draft cooperation agreement and plan was prepared.

What are the features of the OVOP? It mainly supports a small-medium processing industry for the food & fruit industry which is operated and managed by women groups at village level. The project successfully combines support from the government with self reliance effort of people which benefit small farmers in rural areas. A competition mechanism was set up by the government to promote good quality products; it also eliminates low quality products from the market. The Department of Agricultural Extension (DoAE) is seen as the competent department to provide technical assistances for the development of OVOP in Thailand.

In Thailand, a series of meetings were conducted with the JICA representative in Bangkok and with government staff from the Thailand International Development Cooperation Agency (TICA), Department of Agricultural Extension (DoAE), and the Ministry of Agricultural Cooperatives.

The mission outlined the development of the agribusiness sector in Timor-Leste, MAF's effort to develop the sector with donors support, and the role of the Agribusiness Division as one of the main coordinators for donors' activities. Mr. Wada stated that Thailand has demonstrated success in adopting OVOP to improve grass-roots economic conditions, this aims to improve income generation of rural communities. He also said that there are many things that Timor-Leste can learn from Thailand. The Agribusiness Division of MAF is the most competent department in promoting additional income earning in rural areas.
Mr. Rego added that Timor-Leste has close ties with the Thai government which date back to before the 1999 referendum. As a result, many Thai restaurants and fishing vessels are now operating in Timor-Leste. Thai products are sold in many shops and super-markets in Dili (such as coconut milk, dried tamarind, jack can, and spices for Indonesian fried rice which are also made in Thailand).

The mission observed and understood that DoAE was supporting farmers groups in the field of agro-processing and food processing using OVOP activities. Based on the 3 days field visit, the mission proposed a draft for cooperation to the Thailand side.

Preliminary meeting to draft the cooperation agreement

The main activities for cooperation will be:

- Dispatch experts from Thailand, for one or two weeks, to conduct OVOP seminars in Timor-Leste.
- Thai experts to conduct a base-line survey on potential areas for introduction of OVOP movement in Timor Leste.
- Participants from Timor Leste, for activities in pilot areas, go to Thailand for training in OVOP for 2 weeks. Participants will be from central government, agricultural extension staff, staff from NGOs who are supporting agribusiness activities, and leaders of farmers groups.
After 4-6 months, experts from Thailand will again come to Timor-Leste to advise on formulating a detailed action plan to Introduce OVOP movement here in Timor-Leste. Projects could include agricultural extension, food safety and agro-processing.

Implementation for the project is scheduled to start in April 2008 and run until March 2010.

OVOP will not create a large number of jobs or significant income in the short-term, but it is an important initiative to encourage more local processing of Timorese products and to build a local processing capability for food products.

What we learned on the Study Tour to Surabaya

A study tour to Surabaya was took place in 13 to 21 of August 2007. The tour was organized by MAF-Agribusiness involving manager from both Agriculture Services Center (ASC) of Maliana and Viqueque. The objectives was to established linkages and network business in agricultural inputs (seeds, fertilizer & insecticide) and agricultural machinery (hand tractor, reaper, thresher and milling machinery) as well as to investigate market opportunity and for mung beans, peanuts, candlenut and cattle in Surabaya market.

Agricultural Inputs Supply; information obtained during our visited to PT Petrokimia Gresik, the biggest fertilizer manufactory in Indonesia and PT Pertani, the distributor of input supply owned by the Government and managed by private sector there were clear massage that there was almost no chance for Timor Leste to import agricultural inputs from Indonesia. Currently, Indonesian government imposes burned on exporting agricultural input, particularly seed and fertilizer to neighboring country. The main reasons underline this restriction was the current production of fertilizer and seeds are always under supply. Indonesian government subsidized the most used of fertilizer, primarily on Urea, TSP and KCL excluding NPK, NPKS and insecticide. In addition to that there was a decree low which burned the exportation of these mentioned fertilizer and seeds to other country. However, ASC Maliana and Loja Agricultura in Baucau were able to obtain some of these items from Indonesia despite were subsidized and controlled by the government since the marketing channel through border was well established since 2002.

Agricultural machinery Supply; by visiting to PT Agrindo, Tractors Manufacture we show many different model of machinery and hand tractor been produced ever since in Surabaya. There was Reaper AR-120 for rice harvesting, water pump machinery, Tractor 4 W drive, Hand tractor TRG-A1, KB 120, & TRG 700. While in CV. Karia Hidup Sentousa, the dealer of hand tractor Kubota, we discovered that there were many different model of hand tractor (Hand Tractor Quick G 1000, Quick G 600, M 1000 Alfa and Rotary Power Tiller) being delivering regularly within the country including to neighboring countries.

CV. Karia Hidup Sentousa being experienced of sending hand tractor to other country after the cash payment finalized via bank. The price of a hand tractor in dealer will be sold with 2 different prices. The domestic buyer must pay the sales tax of US $ 143 on top of the original price of the tractor, making a total of US $ 1,600 for a hand tractor. The price of a tractor for a foreigner is US $ 143 less than domestic price as it excluding sales tax. Thus, I recommended you to buy from the dealer if you need at lest more than 10 tractors. Otherwise it is better to order from Atambua despite it cost more US $143 for a tractor.

Market Opportunity for Agricultural Products; there were not much margin by trading agriculture product via Surabaya port subject to import tax on Timor Leste products. Traders there were well organized, not many traders would like to buy products from unknown trader partners. PT Asta Pariwisinda Sentousa is the only Chinese trader that would like to buy agriculture products directly from other partners either within the country or even from Dili. In August, the most demanded products of Timor Leste in Surabaya was Coffee, Candlenuts,

A hand-tractor, imported from Indonesia, at work in Manatuto

Peanuts and Mung beans with the average price of US $ 1.70; US $ 1; 0.60 cent and 0.90 cent per kg respectively. However, the current price of candlenuts has drop considerable to only 0.5 cent/ kg, peanut climb up to US 1/kg, while both price of coffee and mung beans remain slightly unchanged.

Zero Star

Operating as Timor Leste Fresh

Address: Manleuana, Dili
Contact: + 670 727 3858
+ 670 729 0846

Zero Star was founded by Mr. Komar Mendonca in 1997 as a small trading business supplying wholesale vegetable products to the main wet markets in Dili. In 2007, this business began the transition to a professional wholesale business dealing in local products, with cold chain management capacity, production planning with growers to produce new products, and marketing to high-end buyers including Dili's supermarkets.

Zero Star has supplied 24 types of vegetables to clients in Dili in the past 6 months, including tomatoes, carrots, cabbage, snap beans, snow peas, beans, lettuce, pumpkins, broccoli, kale, cauliflower, chinese cabbage, herbs, mango, and pineapple. These products are supplied through a network of over 100 independent growers in Ainaro, Aileu, Ermera and Liquica districts. These are largely small-scale farmers who depend on these markets for income for essential items, including school fees and food supplies. Buying arrangements with growers vary from scheduled planting for specialized products, to cash on delivery purchases when product is available.

The goods are harvested early morning to avoid the heat, and transported carefully to protect from the sun and wind until delivered to the client.

Loading Zero Star products for sale in Dili

Grading takes place in location. In January 2008, **Zero Star** will have a fully operational cold chain, with cold truck operating for procurement in the mountains and deliveries in Dili, and a small cold storage facility in Dili for grading and storage of the produce.

Farmer inspects quality of cauliflower

In the past 9 months **Zero Star** has partnered with USAID to develop improved supply chain for fresh products. Support provided has included equipment and training, particularly for the growers partnering in the supply chain.

Prices are negotiated with individual clients based on quantities and availability. For further information please contact **Komar Mendonca** on **727 3858**.

Timor Leste Fresh

BEST QUALITY FRESH PRODUCT

DSP *Agribusiness* Horticulture Program

In 2006, DSP conducted a study on demand for fresh product by institutional buyers, including supermarkets, hotels, restaurants, caterers, and institutional buyers. The study focused on fresh vegetables, herbs, and seafood. Since this time, DSP has initiated activities to improve the supply chain for a number of these products.

DSP's horticulture initiatives have focused on the supply chain for the domestic market, particularly high-end and institutional buyers. Parallel strategies are in place for strengthening supply of existing local products, as well as developing specialized horticulture areas for production of varieties new to Timor-Leste.

Harvesting and post-harvest handling is a key focus, including cold chain development. However, improvements in inputs, planting technologies, and production scheduling are also important for improving continuity and quality of products.

Farmers involved in seed variety trials from 4 locations exchange ideas and knowledge

A key aspect of DSP's strategy is to develop private sector supply chains for quality products. DSP is assisting a horticulture wholesaler, Zero Star, to develop a cold chain linked to the specialized horticulture areas.

Initial support focused on improved handling of existing products, including grading, cleaning, and product care during transit.

Zero Star now has a cold truck provided by USAID, and is investing its own money to develop a cold storage facility in Dili. Zero Star is supplying high-end buyers, including the 4 main supermarkets. Total sales to date amount to 13 tonnes of fresh products at a value of $9,500. Twenty-four different varieties of vegetables and herbs have been supplied, including new products such as Chinese cabbage, broccoli, cauliflower, and kale.

To strengthen knowledge and skills in the horticulture industry, DSP supported participants to attend two training sessions at the BaliFresh facilities in Bali, Indonesia. A three-month hands-on training in horticulture production was attended by 5 persons, including 4 women (1 sponsored by MAFF). The training focused on producing high quality products using production technologies such as greenhouses, netting houses, and tunnels.

A two-week training in cold chain management and marketing was attended by the Zero Star director, 2 staff from DSP, and 2 representatives sponsored by MAFF.for each village targeted during the survey.

Harvesting carrots

Carrots graded, cleaned and packaged

In addition, DSP conducted a product search with the Timor Institute of Development Studies (TIDS) and the National University of Timor-Leste (UNTL) aimed at identifying key horticulture sites with potential to supplement the produce supply chain. Surveys were conducted with 60 farmers from 14 villages from 6 sub-districts in 4 districts. A total of 14 site profiles were completed, one for each village targeted during the survey.

DSP also initiated horticulture seed variety trials through TIDS and UNTL in June 2007. The trials are being conducted in 5 villages in Aileu, Ainaro, Baucau and Dili districts, involving 25 farmers. The trials are aimed at assessing the performance of new seed varieties as well as documenting constraints faced by farmers in horticulture production, including pest/diseases and farmer practices.

The current focus of DSP support is to introduce new high-value vegetable varieties and production technologies into the specialized production areas.

Bali Fresh training on greenhouse production

Harvesting cauliflower in Aisirimou

Tunnel technology under trial in Lequitura

The MAF's Agribusiness Directorate *provides information and advice to the Minister, MAF, and the private sector on Agribusiness. This information is required to assist in the formulation of sound agricultural policy and to develop correct strategies to develop agricultural business in areas with commercial market potential, and to ensure the wise use of resources.*

The Agribusiness Directorate has four main work areas:

Commodity Studies:

Commodity Profile Series developed for enterprises which describe current production by district, identifies issues, analyses constraints and identifies opportunities for import substitution or for export, based on market demand and Timor-Leste's competitive and comparative advantage.

Domestic Market Survey:

Provide local wholesale market price, and time-series data, to farmers, and for budgeting and commodity analysis needs.

Cost of Production data collection and enterprise budgets:

Provide farmers, MAF, consultants, and other rural organisations with COP and profitability data for key crop and livestock enterprises. This information is needed to identify limitations and constraints on-farm, and to make informed economic decisions about adopting improved technology, or diversifying into new enterprises.

Support to Rural Producer Organisations (ASCs):

The aim is to improve the financial viability of the Agricultural Service Centres, support farmer groups and other rural producer organisations, and to improve opportunities for farmers to grow and market products.

Society Itself can make its Own Economic Development, so that Rice is no Longer a Reason for Conflict

The "Seminariu: Inisiativa ba Desenvolvemento Ekonomia Lokal" (Initiatives for Local Economic Development) on 27th of November 2007, opened a new opportunity to discuss the challenges of promoting local economic development in Timor-Leste.

With the participation of different representatives from several local institutions, the seminar contributed for the examination of the challenges ahead, and focused on one of Timor Leste's main staple crops: **Paddy Rice**.

Speakers at the Forum

Together with the GTZ, the Directorate of Agribusiness in the Ministry of Agriculture and Fisheries is working hard to make the production of rice in Timor-Leste more productive and reliable. The seminar, in the Economy Faculty of the Universidade Nacional de Timor Lorosa'e, had a key-role in making the public aware of a number of challenges which must be overcome, namely:

- Lack of access to markets,
- Low production and productivity,
- Poor infra-structure,
- Low prices,
- Lack of inputs and credit,
- Poor coordination and organization, and a lack of information,
- Ill-informed Government Policy, and
- A low-level of private sector investment.

In the past, local farmers received subsidies to produce rice, but now traders and consumers are getting the benefits of subsidies, while the production side is neglected. These facts were presented by Mr. Vicente de Paulo Correia (Lecturer from the UNTL) and Mr. Jürgen Glembotski (International Advisor for the Ministry of Economy and Development), both speakers in the seminar.

The National consumption of rice is between 100,000 and 120,000 tonnes. Because local production provides only 33,000 tones of locally-marketed rice, rice is the biggest food import into Timor-Leste. This imported rice comes mainly from Vietnam and Thailand.

In the past, local farmers received subsidies to produce rice, but now traders and consumers are getting the benefits of subsidies, while the production side is neglected. These facts were presented by Mr. Vicente de Paulo Correia (Lecturer from the UNTL) and Mr. Jürgen Glembotski (International Advisor for the Ministry of Economy and Development), both speakers in the seminar.

Based on the lessons learned after the rice crisis this year, several actions have to be taken in order to make the local rice production and the local economy successful. One action is to identify weaknesses and strengths of the local market for rice. A diagnosis should include strengths, and recommendations for action. Action needs to be quick and responsive because the international market is unpredictable and the reaction from the public, to a rice shortage, can be dramatic (protests and civil unrest).

The "Inisiativa ba Desenvolvimento Ekonomia Lokal" tries to have an impact at the local level. Local action can benefit farmers, rural families, local entrepreneurs, the government, and all those involved in the 'Value Chain of Rice'.

By involving all stakeholders, it is possible to come up with fresh, accurate (as well as subjective) information to back up the analysis and share this information with the other stakeholders. A dialog occurs.

But just the initiation of a dialog is in-sufficient. More has to be done by the public because they are the ones directly involved in guiding local economic development. A set of forums should be enacted to ensure, through the participation of all, the guiding and monitoring of events and activities initiated.

These forums should ensure the re-evaluation of actions taken. The public should have a chance to see the result of their own activities and reconsider them. In the end, it is Society itself that will take over its own economic development, so that rice (or other commodities) is no longer a reason for conflict.

Rice Development in Baucau

We want to develop the rice industry because most of the Timor-Leste population lives from agriculture; the average production of rice at harvest is 1 -1.5 ton/ha. This compares to the time of Indonesian occupation when yields were sometimes achieved of 4.5 – 5.5 ton/ha.

ICM is a new production system for rice and offers a bright future for farmers by improving rice yields.

ICM was first introduced into Timor-Leste in 2004; major milestones are:

- MAF in corporation with University of Hawaii (UoH), tested ICM in Baucau and achieved yields of 4.5 tons/ha (2004/2005).
- Crop Production staff, with the UoH, implemented ICM in 6 districts with the result that 3 - 4 ton/ha were achieved in trials (2004/2005).
- GTZ, in corporation with MAF Agribusiness, worked with farmers in 3 districts and these farmers achieved yields of 3 to 6 tons/ha (2006/2007).

The GTZ is now cooperating with MAF in facilitating training for 16 leading farmers in Seisal, Baucau District; this training will train the farmers to become capable extension officers who will disseminate the information on how to improve rice production to other farmers.

This training was held in September 2007 and will be completed by January 2008. The aim of this training is to show to the farmers how to plant and work on their rice field using the ICM system, and also to provide information on ICM to more farmers in the surrounding areas. This will build interest in ICM in the surrounding communities.

Those participating in the training were the Extension Officer of the International NGO 'World Vision', a local NGO from Los Palos (OCA ICA TUTUNO), and farmers in Iliomar Sub-District, Lautem District, and from Manufahi District. The extension deputy of GTZ also attended the training.

Produce what you can sell rather than try to sell what you already produce

The training instruction was provided by an International Consultant, Dr. Balasubramanian, the developer of the ICM, and by Dr. Ravi (Professor of Entomology) who is an expert in pest and disease management of rice. It was also assisted by local trainers from GTZ: Nelson Ribeiro and Maria Ligia.

More and Better Rice for Peace and Prosperity in Timor-Leste

The training participants (16 of them) will assist farmers in the selected area in 6 District: in Viqueque District (Uatulari, Uatucarbau, Viqueque, and Ossu); Baucau

District (Laga, Seisal and Vemasse); Lautem District (Iliomar and Los Palos); Bobonaro, Manufahi and Suai District. GTZ will continue support the 16 extension staff in their daily work to support farmers in increasing rice production and implementing the ICM system.

GTZ also will continue to support the ICM program; the ICM system was implemented in the first season by the farmer in Vemasse, Laga, Seisal, Uatulari, Ossu, Manatuto; with a total area planted of 32,5 ha in 2007.

We hope for the best success for ICM implementation in Timor-Leste. With success we will no longer need to import rice but can consume local rice produced in Timor-Leste; and at the same time this will improve the local economy and people's livelihood.

What DSP is doing to develop the mungbean industry

The USAID DSP project is working to improve the mungbean value chain through increased production and improved marketing of mungbeans in Suai. DSP has been working with over 300 mungbean farmers for the past year. Problems that these farmers face include:

- poor linkages and limited confidence in buyers,
- a lack of inputs,
- a disrupted trade network due to the crisis.

Using a value chain approach DSP began by verifying that a market exists for mungbean product.

- Exporter Timor Global, has indicated interest in buying an increased volume of mungbeans for export and bought at $0.50/kg in 2007. This was an attractive price for farmers who usually sell mungbeans for between $0.15 to $0.35 per kilogram. Timor Global has no limit on volume and is looking to reach a minimum of 10 tonnes for export (one container).
- Leo Atsabe Ltd, a wholesaler-retailer who bought 98 tonne mungbeans from Balibo, Atsabe and Maliana in 2006.
- ASC Maliana, a government wholesaler that bought 14 tonne of mungbeans from Cailaco and Maliana in 2006.
- Joel Hasil Bumi, a Suai trader who bought 60 tonne of mungbeans from Suai, Tilomar, Mape/Zumalai, Fohorem and Fatumean in 2006.
- Comico Ltd, a local trader Suai
- Caracoal Lts, a local trader Suai

DSP then worked with 317 farmers to plant mungbeans over 217ha in Suai and connect the farmers to local traders. DSP provided them with:

- Seed in-kind.
- Technical assistance on seed selection, planting, IPM, crop care, harvest, & post-harvest storage.
- Marketing assistance.

In November 2007, 303 of these farmers harvested their mungbean crops with an average yield per hectare of 0.43t/ha. This figure only includes the yield which was sold to traders and does not include any beans which were reserved for household consumption or lost through harvest, drying and threshing. Farmers sold a total of USD$39 908 worth of mungbeans to traders in Suai, an average net household income increase of $125 per household.

In the 2008 season DSP will continue this work to improve the mungbean value chain. Interventions will include:

- Include wet season mungbean farmers with 100 identified to receive seed, technical and marketing assistance.
- Expand seed, technical and marketing assistance to 600 dry season farmers
- Assist Fini Esperanca, a local NGO in Suai, to provide in-kind seed loans to farmers (1kg provided with 2kg re-paid).
- Provide networking opportunities for local, West Timor and Javanese traders.

Farmers inspecting a crop of mung beans grown on upland hill slopes

Table: Timor-Leste Wholesale, Break-Even Purchase Price for Exporting Mung Bean (2006)

Transaction	Value
Income in Atambua:	1 MT @ $0.50/kg = $500
Costs: Transport (Dili to border $24/MT) Indonesian import duty (5% of value)	 $24 $25
Wholesale break-even purchase price in Dili per kg	**$0.45/kg**

MAF Agribusiness Publications	
Work Area	***Publication***
Market Survey:	The Survey of Wholesale Fresh Produce Prices: *A Guide to the Method and Reports.* May 2006
	Market Report: Wholesale Fresh Produce Prices - Fruit and Vegetables. December 2006
Commodity Studies:	*Commodity Profile Series:* No. 1 Version 2 – Rice, May 2006
	Commodity Profile Series: No. 2 Version 1 – Soya Beans, August 2007
	Commodity Profile Series: No. 3 Version 1 – Mung Beans, February 2008
	Commodity Profile Series: No. 4 Version 1 – Cattle, February 2008
Support to ASCs:	Restructuring the Agricultural Service Centres to Achieve Timor-Leste's Development Goals. April 2006
	Financial Management Manual (FMM) for Agricultural Service Centres: *Instructions on maintenance of accounting records.* August/December 2006
	FMM Indonesian Version. December 2006
	West Timor Market Study: *A study to identify agricultural commodities produced in Timor Leste that can be successfully exported to markets in West Timor, Indonesia.* October 2006
	West Timor Market Study: *Executive Summary* in Indonesian
Commercial Rice Production Project:	Brochure introducing 'Integrated Crop Management' technology for farmers: ***Halai Natar Tuir Sistema IRRI Timor-Leste***
	Integrated Crop Management for Rice: *Extension Agent Manual* (*With University of Hawaii & GTZ)* April 2007
	ICM Extension Agents Manual: Tetum Version, April 2007
Training:	How to Calculate Gross Margins for Subsistence Cropping. November 2006
Other:	Annual Report for the Agribusiness Directorate. October 2006
	Working Paper: A Strategy to Develop the Timor Leste Cattle Industry and Cattle Exports. *A Joint Paper by the Agribusiness Directorate and Livestock Division of MAFF.* December 2006
Newsletters:	Agribusiness Timor-Leste*: Volume 1, Issue 1.* February 2006
	Agribusiness Timor-Leste*: Volume 2, Issue 1.* February 2007
	Agribusiness Timor-Leste*: Volume 3, Issue 1.* February 2008
Cost of Production / Enterprise Budgets:	Farm Budgeting Manual *(Planned for 2008)*

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