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Candlenut-Oil Exports From Strength to Strength

The official export of candlenut oil was formally celebrated on the 11th December 2006 which occurred at the time of 3rd shipment of oil to Hawaii. The event was organized by MAFF, with the support of GTZ, and took place in The Ministry's Fomento building in Dili. This 3rd shipment of candlenut oil to Hawaii recorded 60 drums with a total of 10800 liter, or 10 drums more than the previous two shipments of 9000 liters per shipments.

In his speech, Minister Estanislau Aleixo da Silva stated "The export was a positive sign that in reality there was no crisis occurring in the districts, as rumors suggested. People outside Dili were busy with their daily activities, gathering candlenut and processing it into oil; only Dili had problems." He added, "The local entrepreneur, ACELDA Ltd, has dem-



The Minister, Estanislau Aleixo da Silva, inaugurates the official export of candlenut oil in Dili

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onstrated its capacity and capability to become a reliable and committed local exporter and we were here to celebrate this with the official export of candlenut oil". The Minister also said that MAFF is planning to establish other candlenut oil processing either in Bobonaro or Covalima, depending on the potential areas and human capacity.

Candlenuts, exported from the eastern districts alone, are estimated at 400 tonne annually (300 tonne nuts plus 50 tonne of oil). If adequate support, through soft loans and technical assistance, is provided to local traders in the

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western part of the country, particularly in Cova-Lima and Bobonaro, candlenut exports could eventually reach triple this figure within the next three years. Data from 'East Timor in Figures (1998)' shows that the predominant areas of candlenut in Timor Leste are in Suai, Baucau and Bobonaro with a total area of 850 ha, 399 ha and 213 ha respectively, involving about 972 farmers in Suai, 1013 farmers in Baucau and 624 farmers in Bobonaro.

Therefore, expanding candlenut collection for export into other parts of the country is crucially important for the country as it will bring extra money to farmers' pockets as well as new job for rural communities.

Groundnut Export Opportunity

For a long time groundnuts have been grown as a food crop in Timor-Leste. The crop is usually planted in the farm garden, but can also be planted in rice fields intercropped with other plants (tumpang sari). Even though groundnuts (peanuts) are well known to Timorese, the full export potential has never been exploited. Peanut have a different name in various parts of the country: In Los Palos peanuts are called OTEMINA (Fataluku), UTAMU'A in Baucau (Makasae), FORE MALAE with Tetun Terik dialect, UTA DAI in Makasae Viqueque, UTO ANA in Uaima'a dialect, UTAISI in Nau-Eti dialect, HURISA in Mambae dialect, FUA KASE in Oecusse (Baiqueno), HO'I in Bunak Suai dialect, ASOGO in Bunak-Bobonaro dialect, ASARAI in Kemak dialect, and others.

Even though ground nuts were well known to farmers, only few farmers traditionally grew them for sale. Peanuts were grown mainly for consumption, either boiled or cooked with maize, or even fried. However, changes occurred with the Indonesian occupation of almost 24 years. Farmers in many places began to grow groundnuts on a large scale to sell to the Indonesian military and Indonesian traders. The Indonesians used peanuts for their cookies (biscuits), meat satay, and for sauces mixed with chili. Some traders also exported the ground nuts to Indonesia.

Nowadays, ground nuts are a commodity with a high value in the international market. A recent survey made by the Agribusiness Directorate of MAFF/MAFP, in cooperation with GTZ's Farming Systems Programme (FSP) in Baucau, shows that ground nuts are commonly grown by farmers in Darasula, Triloka, Gariuai and Quelicai, and these have a good quality as an organic product which can meet international market standards.

Timor Global, based in Timor Leste and Singapore, together with GTZ-FSP, tested the local variety of peanut in a Singapore laboratory and confirmed that the local variety is of good quality and can be exported to the Singapore market.

Ground nuts are becoming an alternative crop for Timorese farmers for export to the international market. This is now the case for Triloka and Darasula farmers who can increase their incomes by growing ground nuts for export by Timor Global. The Farming Systems Programme of GTZ, with the Agribusiness Division of MAFF, is promoting ground nuts to farmers in order to establish a chain between producers and consumers. With cooperation amongst farmers, and with Timor Global's marketing connections, farmers have better access to the international market. Under a contract with Timor Global, farmers will produce more ground nuts of good quality without having to worry about the stability of the market. However, an important need is to encourage farmers, in groundnut growing areas, to grow more ground nuts, and to help them use better farming systems which can improve yields and maintain the highest quality of ground nuts.

The GTZ Farming Systems programme, with the Agribusiness Division or MAFF, organised ground nut farmers in Triloka-Darasula to sign a contract with Timor Global for planting ground nuts in the 2006-2007 season. Basic training on how to grow ground nuts, and demonstration plots, will be provided. Timor Global will buy from farmers a minimum of 20 tonne in 2006-2007. We certainly believe there is a big opportunity for peanut farmers in Triloka, -Darasula to produce more ground nuts and to earn additional income for a better life for themselves and their families.

When we become involved in an export activity like this, we need to work hard, build trust among ourselves and, most importantly, demonstrate that we can produce ground nuts of reliably good quality. We hope that, with time, farmers will continue to increase peanut production to meet the demand of the international market.

***Let Us Build The Economy Of The Community
Through
AGRIBUSINESS DEVELOPMENT***

SUMMARY FINDINGS OF THE FRESH PRODUCT DEMAND ASSESSMENT

In 2006, Dezenvolve Setor Privadu (DSP) conducted a survey on the demand for fresh food products. The survey focused on fruits, vegetables, herbs, seafood, and eggs. The objective of the survey was to identify opportunities for displacing imported fresh food products. The survey documented the volume and value of the top ten imported and locally supplied products in each category.

The survey respondents were arranged in three categories:

- Supermarkets and/or importers [food sources]
- Restaurants with five sub-categories: Chinese/Timorese, Padang, Chinese, Asian, and International / European [food users]
- Food catering services [food users]

The assessment was carried out from mid-September to mid-October, 2006.

Data from interviews with five supermarkets and/or importers as well as larger restaurants indicated that over 360,000 eggs / month were imported. Likewise, "fish fillet" imports exceeded 3,000 kg / month.

For the main types of imported fruits, i.e., oranges, apples and pears, they reported about 30 - 50 mt / month. Main imported vegetables of Chinese cabbage, potato, tomato, capsicum, onion, and garlic, amounted to more than 35 mt / month. Retailers expressed strong interest in purchases of highly perishable vegetables, such as capsicum, Chinese cabbage, and large tomato, from the local market. Substantial losses of those vegetables were experienced during transit from sources in Singapore and Australia.

Data from the interviews with over 63 restaurants were classified according to the ethnic food dishes prepared. In **terms of volume**, the imports of vegetables amounted to 4.7 mt, while fish and herbs weighed only 2.5 mt and 0.15 mt, respectively. These restaurants reported using over 41,000 imported eggs during this study period. However, the overall quantities of imported commodities were



Produce in local vegetable market stall

comparatively small in comparison with locally produced commodities.

In **terms of value**, the total value of imported fish [\$13,536] was substantially higher than imported vegetables [\$7,026] which is the **reverse** of the volume relationship. In other words, fish had a higher per-unit value, because of both the species and of the "value-adding" when filleted. The relatively substantial value of imported eggs [\$5,292] was the **only kind** of imported commodity to exceed the value of its comparable local products [\$1,267]. In fact, the restaurants spent more for the comparable local fresh fish foods than for imported vegetables, fruits, herbs, and fish.



Example of existing cold chain for fisheries

The findings indicate that within the fresh foods category (higher valued meats, processed fish, eggs, vegetables and certain temperate fruits) imports are a substantial part of supply. Survey results indicate there is substantial room for any stakeholders in this area to develop fresh product supply chains which will put more money into the pockets of small stakeholders in rural areas.

Summary Insights & Recommendations

Extremely strong demand for chickens and eggs has been mainly supplied by imports. However, recent experiences of a large, locally operated poultry/layer farm indicated that local egg production can be competitive in Dili. Poultry production is not competitive with imports from Brazil.

Local cultivation of certain high value vegetables, such as capsicum, tomato, cauliflower, snow pea, French Beans and lettuce, can be substituted for limited imports.

Consumers have requested other scarce, high value, very perishable vegetables from the supermarkets. Local production could earn a market share based on their own merits, such as Chinese Cabbage [white], Chinese Spinach, and broccoli.

Substantial volumes of certain storable vegetables, such as

onions and garlic [locally classified as herbs] have been consistently imported. Locally grown, smaller sized varieties remain uncompetitive at this time. Different varieties and improved cultural practices could earn a large share of that promising import market.

Field fruits, such as water melon, musk melon, and other



Harvesting and on-farm grading of snow peas in Hatubulico

Asian melons, were too perishable and expensive to import in substantial amounts. However, supermarkets were very interested in selling locally grown melons, if they are of good

quality and reasonably priced.

Increasing amounts of whole local fish were being displayed and sold by the supermarkets. The absence of an effective cool/cold chain system from the more distant fisheries, such as Viqueque, inhibits shipment of larger quantities.

Responding to the Survey

DSP is in the preparation and planning stages of identifying, evaluating and partnering with local agribusinesses to respond to the findings in a number of areas.

Initially, DSP will focus on improving the range and consistent supply of horticultural and seafood products for the domestic markets. Once improvements in the quality, volume and reliability of local supply have been achieved for domestic buyers,

investigations into potential export markets will be undertaken.

Interested existing local businesses will be selected for partnerships that focus on improving supply chain management and achieving market requirements in a timely manner.



Produce is usually not graded, but simply packed together in a sack for transport to Dili. Grading of product is essential for high-end buyers

The 2007 activities in horticulture will focus on improved varieties, year round production, appropriate post-harvest handling, higher end marketing, and cold chain linkages.



Product cleaned and graded on-site in Daisoli, Aileu District



Quality cabbage selected for local supermarket

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Timor Global, a company with big plans for Timor-Leste

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Study to investigate opportunities for export and processing of minor crops

The Territorial Approach to market development used by CRS in Timor-Leste

Private Sector Development (DAI)

MAFF Agribusiness Division Work-Plan approved

What's happening at the Agricultural Service Centres

What We Learned on the Study Tour of West Timor

A study Tour to West Timor, Atambua and Kupang took place during 9th to 13th October 2006. The Tour was organized by the MAFF Agribusiness Division and involved staff from the Directorate, from Agriculture Service Centres in Maliana and Viqueque, as well as farmer representatives. The objectives were to learn new technologies and to investigate export market opportunities for mung beans, soya beans, peanuts, and cattle.

From what has been learned during the West Timor tour, both Viqueque and Maliana ASC are willing to develop new types of business: cattle fattening and cattle breeding, and the use of cheaper technology for growing Mung beans. What are the features of these new businesses, as practiced in West Timor?

Cattle fattening system: A number of farmers in a group receive 2 bulls and all the cattle are raised communally in one place. Treatment of diseases and other health care, including marketing, are organized through Village Cooperative Center "PUSKUD". Once the bulls reached 250 kg, the PUSKUD buy the cattle from farmers and then organize the export to Surabaya, or sell to a cattle exporter. The average price received by farmers for 1 kg live weight is set at Rp. 12,000.

Cattle breeding method: Farmers in the group receive 2 female cows. All the cows are grazed/fed in one place. In a four years contract cycle, one farmer will repay 4 young animals, either cows or bulls, to the PUSKUD. The farmer can retain 2 females plus 2 young animals. Treatment for diseases and health care, including

marketing, remain the PUSKUD responsibility.

Technology for lower-cost growing of Mung Beans: There is no land cultivation used for growing mung beans. Firstly, land covered with weeds is spread with a systemic herbicide; three days later the land can be planted with mung beans. Using this simple technology, farmers spend less on inputs to grow mung beans. As a result, the gross margin per hectare using this technology is higher compared to traditional technology.

The study team found that cattle exports from West Timor have begun gradually to decline as a result of the lack of proper cattle breeding systems promoted by the Indonesian government. Evidence for this is the average live-weight of export cattle. The minimum live-weight for a cattle exported from East Timor is 300 kg, whilst the minimum weight in West Timor for export is only 250 kg.

The importance of cattle breeding for rural economy: Cattle breeding is crucially important to develop the rural economy; improved breeding will enable cattle exports from East Timor to increase gradually. Without improved breeding, cattle exports will decline in future due to the shortage of young bulls for fattening; this is already widely experienced around the country. Appropriate breeding systems will stimulate cattle fattening programs and lead to higher export earnings for the country, as more young animals will be available throughout the year for fattening.

The current cattle exports to West Timor are 6,000 head, including 400 head from Cooperative Café Timor (CCT). This shows that about 93 % of cattle exports are sourced from small farmers; a sign of economic growth in the agricultural sector. However, cattle exports from West Timor have begun to decline due to the lack of good cattle breeding systems.

Other export market opportunities that can be developed through West Timor include mung beans and peanuts. More detailed market information for these commodities, and others, are covered in the "*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*", published by the Directorate of Agribusiness.



Director of Agribusiness, Mr. Adelino do Rego (centre right), with member of the study team in West Timor

WEST TIMOR MARKET STUDY IDENTIFIES EXPORT OPPORTUNITIES FOR TIMOR LESTE FARMERS

During October 2006, GTZ funded the MAFF Agribusiness Directorate to commission a 'Market Study in West Timor'. The study identified agricultural commodities produced in Timor-Leste that can be successfully exported to markets in West Timor, Indonesia. The study was carried out by Adam Sendall in association with Yayasan Timor Membangun, an Indonesian NGO based in Kefamenanu, West Timor.

The study team travelled to Kupang and Atambua to collect information from the Department of Agriculture, Department of Industry and Trade, Quarantine, Customs and a State co-operative. Market surveys were carried out with traders in Pasar Oeba in Kupang and Pasar Baru in Atambua. Visits were made to the cargo ports at Tenau (Kupang) and Atapupu, (Atambua). Meetings were held with cattle traders at Haliwen Quarantine Station and with Gajah Mada and Paris Indah, large traders in Atambua, who are already importing agricultural produce from Timor Leste. Visits were also made to two abattoirs, cashew nut growers and a soybean processor.

Commodities with export potential were first selected using the following criteria:

- Production is already widespread in Timor Leste;
- Farmers already have the knowledge to produce reasonable yields;
- The commodities are non-perishable;
- The commodities do not require complicated post-harvest processing or special storage and transportation facilities; and
- Marketing networks already exist for trading the commodities.

Mung Bean

Mung bean is currently imported to West Timor from Java and Myanmar as not enough is produced to satisfy local demand. Although the flavour of local varieties is preferred, traders buy local mung bean for the same price as hybrid varieties. Whilst local varieties take three months to grow, hybrid varieties take only six weeks, which reduces production costs. Retail prices

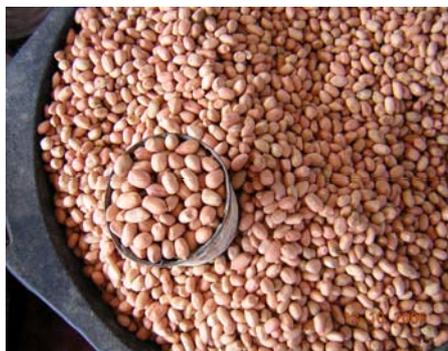


Pasar Oeba, Kupang

peak between November and February reaching \$1.30/kg in Kupang. Therefore much higher profits can be made if mung bean is stored until the peak season.

Groundnut

Indonesia does not produce enough groundnut to satisfy demand and imports from India. Demand is high in Atambua for local consumption and to ship to Surabaya. Retail prices peak between November and February reaching \$1.40/kg for kernel.



Therefore much higher profits can be made if groundnut is stored until the peak season.

Beef Cattle

Heavy stall-fed bulls from Timor Leste have a good reputation for quality in Atambua. Higher prices are paid for cattle weighing over 280kg and buyers are currently paying \$1.38/kg live-weight in Atambua. The cattle are shipped to Surabaya for slaughter and consumption in Java.



Cattle loaded in Atapupu for shipment to Surabaya

Tamarind

Tamarind in Timor Leste currently goes unharvested. 10,000 MT of tamarind is shipped from Atapupu every year to Surabaya for processing and consumption, or for export to countries such as Malaysia. Traders in Atambua currently pay \$0.33/kg for tamarind pulp.



Tamarind pulp loaded in Atapupu for shipment to Surabaya

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Cashew

Indonesia exports cashew (in shell) to India where it is processed and sold to high-value markets in the USA and

Europe. Traders in Atambua currently pay \$0.56/kg for cashew (in shell).

Traders from Atambua enter Timor Leste to buy the above commodities. One trader interviewed was currently importing 10MT a week of mung bean, candlenut and copra from Maliana and Suai. Traders are also seeking to buy turmeric, *maek* /Talas (a local variety of taro) and pepper.

In the long-term Timor Leste will need to focus upon developing low-volume, quality agri-food products for sale



Ginseng soaked in sopi to produce an elixir with health enhancing properties

to high-value markets overseas. The study identified organic honey produced in the coffee plantations, plum and peach liqueurs, sandalwood oil, ginseng, cardamom and nutmeg as a g r i - f o o d products for the future.

In the short-term, the study recommended that MAFF pro-

motes increased production of the raw commodities identified for immediate export. The study concluded that not enough was currently being produced to satisfy domestic consumption. Other recommendations included:

- (i) inform farmers of market prices and quality standards in Dili and Atambua;
- (ii) establish an indigenous wholesale supply network to source produce from the districts;
- (iii) establish storage facilities to take advantage of seasonal price peaks;
- (iv) promote stall-feeding of cattle and establish export networks from Oecussi to Wini, similar to that already

established in Atambua;

(v) establish regular markets at the border with West Timor to facilitate direct trade. A Memorandum of Understanding was already signed between Timor-Leste and Indonesia in 2003 for this purpose.

In conclusion, enhanced regional co-operation, principally with Indonesia, will be important for revitalising the agricultural sector in Timor Leste. Improved marketing infrastructure and increased trade in agricultural commodities will provide opportunities for employment, improve food security, reduce poverty and improve income distribution across all districts.

Farmers already adopting the Integrated Crop Management system for rice production in Maliana

Maliana Rice farmers want to grow more rice so that less has to be imported and to increase their incomes. To achieve this they are using a crop management system that not only increases yield, but reduces inputs as well. Extension agents from the Agribusiness Directorate of MAFF are teaching this system, known as Integrated Crop Management (ICM), to innovator farmers this 2007 rice season.

Farmers have already seen financial benefits less than one month into the rice season because they are able to plant 1 hectare of paddy with less than 10 kg of seed. In a traditional system, the same hectare would require 35 to 40 kg of seed. To prepare the seedlings for transplanting, only two people were needed instead of five people. In the ICM system, seedlings are transplanted in lines. Three farmers reported that it takes about 28 person-days to plant a hectare of paddy that would normally take up to 50 person-days. With more practice in the coming seasons, the planting labour will probably be even less.

One farmer, Sra. Juvita Pires, was so excited about the labor saving, she told a fellow farmer in the marketplace. His disbelief was met with an invitation to see for himself the paddy where she had planted rice. After seeing the paddy, he immediately requested participation in the program and is now managing his own plot of rice using the ICM system.

As the season progresses, farmers will learn ways to control weeds easily and manage nutrients efficiently. Because the seedlings are planted in lines, a hand operated mechanical weeder is used to reduce labour from days to hours, as it did in tests in Aileu. Urea will be applied only when the crop needs it, as indicated by the colour of the leaves. This will save fertilizer, and will also keep the crop stronger to resist pests and disease.

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Can Timor-Leste be Self-sufficient in Rice Production?



Establishing a Seedling Nursery for the Commercial Rice Production Project in Bobonaro

The Agribusiness Directorate of MAFF has started an exciting Commercial Rice Production Project in Maliana and Baucau. This has been funded by GTZ. The project started by recruiting and training 14 extension officers, ten from the Western Districts and four from Eastern Districts.

Jose Barros is the Project Manager in Maliana and reports to the Agribusiness Director, Adelino Rego, in MAFF, Dili. Jose and his team have planted a second crop of rice for training purposes which will be harvested in early January. In 2007 the Extension Officers will work with about 10 farmers each, to demonstrate how the new rice growing technology can improve rice yields in Timor Leste without any more work than the traditional methods. This will mean about 80-100 farmers will be needed to grow rice using the new methods in 2007 in Maliana, and at least another 50-60 farmers in Baucau.

Dr Richard Ogoshi, from the University of Hawaii, and Dr, Balasubramanian, the father of the *Green Revolution* in India, are the experts providing the Timorese staff with training in the commercial rice production technology - called **Integrated Crop Management (ICM)**.

The main feature of the ICM technique is that the rice is planted in wide spacing and only one rice plant is planted at each planting location rather than the multiple-seedlings used for traditional planting.

Having a lower planting rate means that the rice nursery is a lot smaller and the amount of seed needed for the ICM is only about 10 kg per hectare of rice instead of 40 kg with traditional methods. The lower amount of seed required by the ICM technique also means that farmers can buy the best rice seed rather than relying on keeping their own seeds. Keeping old seed generally means seed of poorer quality and paddy rice that matures irregularly, this can lead to uneven grain ripening, loss of harvestable rice, and higher losses at milling.

Other important features of the ICM rice growing technology are: soil testing, applying fertiliser according to plant needs (including applying KCL fertiliser), monitoring the colour of rice leaves so that fertiliser rates can be adjusted, spraying for insect pests, using mechanical weeders between the widely spaced rows, and harvesting a lot more rice than is normally harvested using traditional methods.

Gross margin budgets prepared by the trainees, based on their current experiences, suggest that farmers can harvest at least another one tonne per hectare of rice using the new technology and earn over \$5.00 per labour day spent working on rice, compared to only \$2.00 per labour day using traditional rice growing methods.

Based on the current 36,700 hectares of irrigated rice grown in Timor-Leste now, and achieving only another 1 tonne per hectare yield using the new ICM rice growing technology, would put Timor-Leste well on the way to becoming self-sufficient in rice production. This will mean higher incomes for farmers, and a big saving in the foreign exchange money now spent on importing rice.

Farmers can earn over \$5.00 per labour day growing rice using ICM technology compared to only \$2.00 per labour day using traditional methods

Centro Logistic Manatuto

Centro Logistic Manatuto (Manatuto Logistic Center) or CLM was established in Maliana, in 2001, from the former Centro Logistic National (CLN). CLM operates as a private rice trading company.

According to the Director/manager, Ahmad Umar Duru, the former CLN was unsuccessful in Maliana, because it has to compete with ASC-Maliana which was already established. Because of this, CLM moved to Manatuto. Subsequently it has expanded to another four districts Baucau, Viqueque, Covalima and Same.

Supported by GTZ, CLM business in rice procurement is rapidly expanding. From 2003 to 2006, the total paddy rice traded was 150 tonne, 360 tonne and 165 tonne. The dramatic decline in 2006 was triggered by drought. It is predicted that the quantity of rice trade will increase considerably to 500 tonne this year, said Ahmad.

The CLM business strategy increases sales of local rice through the provision of credit and service delivery to small farmers. Besides the provision of improved seed, fertilizer and tractor services, CLM also provides interest-free credit to small farmers to enable them to grow paddy rice. If more land can be used to grow paddy rice, more rice can be traded.

CLM has been successful since it operated in Manatuto in 2003. By developing a good cooperation with farmer groups, CLM has expanded to 78 farmer groups in Manatuto, Suai and Viqueque. However, most of the farmer groups are in Manatuto.

CLM provides inputs such as seeds, pesticides and agricultural equipment and tools (such as threshing machines and rice milling machines) to farmer groups. Farmer groups pay for the inputs/loans when they sell the rice.

For land preparation, CLM also rents out tractors with the same repayment system as for other inputs, with payment

depending on the area of land cultivated.

CLM is one of the main buyers for farmers in Manatuto and other rice production districts. One of principal objectives of CLM is to promote local rice production so is named "Fovabaproducto Nacional" (to improve the quality of National Product). In helping farmers to increase their income, CLM purchases paddy rice, based on quantity not quality. For the first purchase in 2003, CLM were able to buy about 157 tonne of paddy at US \$ 0.11/kg. From this, CLM produced 102 tonne of milled rice. Through their distribution channel for rice, CLM sold it to GTZ and to the Dili market at an average price US \$ 0.30/kg of rice.

For 2004, CLM purchased paddy rice from four districts as follows: Suai 150 tonne, Manatuto 300 tonne, Maliana 75 tonne, Baucau 25 tonne. However, CLM are only able to store 357 tonne.



Growing Paddy Rice in Manatutu District

In 2005, CLM segmented the markets according to consumer preferences; therefore, CLM used different packaging for different markets according to consumer demand. For instance, when CLM supplied local rice for sale at "Lita Store" for several months it was based on

Continued... criteria such as emphasising the promotion of local rice/Manatuto rice with two types of packaging: small size (25 kg) at US \$ 8.00 and the medium size (40kg) at US\$ 12.00.

According to World Food Programme in Timor-Leste (WFP 2003), the average rice yield is estimated at only 1.50 tonne/ha of paddy rice (unmilled) in Timor Leste. The Manager of CLM is aiming to increase rice production from 1.5 tonne to about 4 tonne per ha (the average for Asia) by increasing the availability of farm inputs to help farmers and by expanding the area

cultivated to generate employment in the agricultural sector. In addition, CLM has started a new strategy in coordination with the Ministry of Agriculture, Forestry and Fisheries (MAFF) and GTZ. It will involve the technical staff of MAFF to assist farmer groups to use Integrated Crop Management (ICM) and also to assist farmers to better operate tractors.

We hope that the CLM business in rice procurement can be expanded further to other rice districts.

Farmers already adopting ICM

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Extension agents are focusing on approximately 30 farmers in the Maliana and Atabae areas. Their work includes teaching the farmers the new ICM system and establishing a marketing connection between the farmers and the Agricultural Service Center (ASC) in Maliana. The ASC supplies farmers with all the farm inputs needed, and will buy the rice from farmers for milling and sale.

Based on previous Timor-Leste experience, farmers in Maliana can expect a yield of 4.2 to 4.8 tons/ha. Trials in Baucau over the past three years show that these yields are possible. With yields like this, farmers will be on their way to meeting Timor's rice needs with local production.



Sr. Silvano Soares and Sra. Juvita Pires (left to right) standing in a newly planted paddy, Maliana. The seedlings are planted in lines to allow easy weeding with a mechanical weeder.



Srs. Abel and Alcino Mau (left to right) show two types of hand operated mechanical weeders. The weeder on the left was manufactured by Sr. Abel in Maliana based on a design from the International Rice Research Institute and used in the Integrated Crop Management system. The other weeder was manufactured in Indonesia.

Improving the Agricultural Service Centres' Financial Records

At the beginning of the year MAFF decided to upgrade the financial records of the Agricultural Service Centres in Maliana and Viqueque and approached Australian accountant Les Johnson and his assistant Juliana Hau to help set up and implement the changes.

The electricity supply in Maliana and Viqueque is not reliable enough to operate a computer based systems so we decided to set up manual cash books and other records. When it does become practical to use computers then we will switch to them. No matter how well they are maintained, manual records can never match the speed, range of information and productivity computers can provide. On the other hand, people who have become proficient with manual records generally have a deeper understanding of accounts than those who have always used computers.

Les Johnson and Juliana Hau wrote lessons in bookkeeping including examples of cashbooks, stock ledger sheets, requisitions and other necessary records and supporting documents and we organised days for training with the office staff from Maliana and Viqueque. These sessions proved to be lively affairs, at times almost too much so. The staff from Maliana and Viqueque were willing to learn new ideas and were not afraid to offer suggestions of their own. We revised the proposed accounting system in light of their comments. We had three such training sessions. They were never dull and a good rapport was established between all the people involved.

When Maliana and Viqueque staff returned to their offices we supported them with visits by João Piedade and Inha Belo, from MAFF, and Juliana Hau (who works with Les Johnson).

However, we must continue to make an effort with the inventory records and financial reporting:

- In both Maliana and Viqueque the financial staff already know how much inventory they have but continuous inventory records are needed to value it and control it. For instance, if a centre buys 5 tonne of copra we want to know that 5 tonne of copra has been sold, or if it has been lost somehow, how much was lost and how the loss occurred.
- Regular financial reporting is important. MAFF and the management of the Centres cannot afford to wait until the end of the year to know whether a Centre is operating viably. Monthly reports are best but if this is impossible quarterly reports would be acceptable. In the coming year we will continue to work with Centres to develop a practical reporting system.



ASC staff work on their accounts during a training workshop

Overall, we are pleased with the progress made in 2006. The records have improved and it has largely been due to the efforts of the Timorese people involved. A major factor was the enthusiasm of the office staff in the Agricultural Service Centres. We must do more on the inventory and the financial reporting. Everyone has tried hard.

MAFF Agribusiness Publications

The Survey of Wholesale Fresh Produce Prices: <i>A Guide to the Method and Reports</i> . May 2006
Market Report: Wholesale Fresh Produce Prices - Fruit and Vegetables. December 2006
Farm Budgeting Manual (<i>Planned for 2007</i>)
<i>Commodity Profile Series</i> : No. 1 Version 2 – Rice, May 2006 <i>Planned</i> : Cattle, Soya Beans, Maize
Restructuring the Agricultural Service Centres to Achieve Timor Leste's Development Goals. April 2006
Financial Management Manual for Agricultural Service Centres: <i>Instructions on maintenance of accounting records</i> . Aug/Dec 2006
West Timor Market Study: <i>A study to identify agricultural commodities produced in Timor Leste that can be successfully exported to markets in West Timor, Indonesia</i> . Oct. 2006
Brochure introducing 'Integrated Crop Management' technology for farmers: <i>Halai Natar Tuir Sistema IRRI Timor Leste</i>
How to Calculate Gross Margins for Subsistence Cropping. November 2006
Annual Report for the Agribusiness Directorate. Oct. 2006
Working Paper: A Strategy to Develop the Timor Leste Cattle Industry and Cattle Exports. <i>A Joint Paper by the Agribusiness Directorate and Livestock Division of MAFF</i> . Dec. 2006
Agribusiness Timor-Leste: <i>Volume I, Issue 1</i> . February 2006 <i>Volume II, Issue 1</i> . February 2007

Cattle Exports Potentially Timor-Leste's Biggest Export!

A recent study identified that Timor-Leste export earnings from cattle could eventually increase to US\$25 million; more than coffee exports. Demand for meat in Indonesia is growing at 6-8% per annum and all exports can be absorbed by Indonesia.

Increasing the export value of cattle means having larger numbers of surplus stock to sell and this requires improving the management of cattle, in particular the feeding and mating-management of cows, and improved use of pastures and forage trees.



Examining a site in Los Palos where fodder can be introduced under plantation tree crops

There are about 174,000 cattle in Timor-Leste. The most important areas for beef cattle production now are Bobonaro, Oecussi, Viqueque and Covalima. There are 206,000 hectares of grazing land; the four districts with the largest grazing areas are Lautem, Covalima, Manufahi, and Viqueque; these are the locations that have potential to significantly increase cattle numbers.

Live cattle are exported through West Timor by traders who come across the border to buy cattle from farmers, and also by Co-operative Café Timor (CCT). CCT exports are about \$100,000 yearly, and the value of cattle exported by traders \$680,000.

Based on Indonesian statistics, in 1997 the domestic beef wholesale market was worth around \$1.3 million dollars. The value of the domestic market has fallen since the Indonesians left Timor-Leste; combining the current value of domestic consumption with the value of exports, gives a total value of the beef industry in Timor Leste of \$1.3 million (\$0.68 million for exports plus \$0.6 million for domestic consumption); however, this figure only values commercial market activities. If the value of cattle in the subsistence economy is included (on-farm

consumption and exchange) the value of the cattle sector is closer to \$4 million.

Based on various data, Timor-Leste imports around 200 tonnes of beef annually, worth about \$1 million. These imports are higher quality convenience cuts of meat, or processed meat, sold mainly in Dili.

Improving the productivity of Timor-Leste's beef cows will involve:

- Calving cows at the start of the rainy season so that grazing supply better meets the needs of cows (dams).
- Strategic use of forage as a supplement to feed cows during late pregnancy and during lactation.
- Introducing bulls of higher genetic potential (most good bulls are kept for finishing and export as live animals destined for the meat market).
- Introducing livestock recording systems so that animal selection can be based on performance.

There are a number of issues that need to be addressed if the cattle industry is to reach its potential. These include:

1. Finding a use for surplus female animals for domestic consumption and export because now only male cattle are exported as bulls.
2. Developing underutilised natural grazing land into improved pastures using paddock or cell grazing systems. This may need to involve management by farmer associations on communally owned land. Cell/paddock grazing would dovetail well into a system that supplies young bulls to farmers who use cut-and-carry forage to fatten 2 to 6 animals for export.
3. The poor reproductive performance of Bali cattle need to be improved. This is manifested as long intercalving intervals (18-24 months), high calf mortalities (up to 30%), and low calving percentage (about 30%). Poor performance is mainly due to poor nutrition, and the poor timing of peak nutritional requirements with the availability of feed.
4. Timor-Leste is not self sufficient in maize or rice for human consumption, so animal feeding cannot include high levels of concentrate feed. Cattle feeding must be based on forage for cut-and-carry, forage for browsing, improved pastures, pasture legumes, better use of crop by-products in villages, and growing fodder crops after rice on irrigated land.
5. AI (Artificial Insemination) may have a role in selective breeding from the best cows brought to a centrally located AI station; the AI station would be able to



These cattle could benefit from improved management under the guidance of an integrated village-level cattle project

work with some 'satellite' farms close by.

6. The T-Bar abattoir needs to be upgraded to produce meat for the domestic market and to train Timorese staff.
7. Quarantine regulations add expense for exporters, so the procedures need to be simplified or eliminated if not essential (In past times there was no quarantine border).
8. Farmers will need to be able to access credit if they are to be able to buy cattle and develop forage resources.
9. Cross-border trade from Eastern Districts involves long and expensive road transport and animals lose a lot of weight when transported. Exports can occur from Com Port to Surabaya.
10. Exporting cattle will need to involve Indonesian traders already involved in the marketing of cattle in Indonesia. This is because of the protective nature of the trading community in Indonesia which generally doesn't welcome newcomers.

Developing the cattle industry in Timor-Leste is a big challenge. This challenge may be best met by project funded by an international donor to run over at least 7 years.

Another more low-key approach, successfully used by ACIAR (*Australian Centre for International Agricultural Research*) in Lombok, would be an integrated village-level management project designed to increase weaning rate and growth of cattle for sale. A technical extension package in reproduction and nutrition was developed by ACIAR in addition to strategies for low-cost supplementary feeding. The livestock improvement strategies included controlled mating (one bull, 3 month mating period), and weaning calves at 6 months; this resulted in cows in better condition that were less costly to feed, and calves growing better through feeding on appropriate food.

On this ACIAR project controlled season mating resulted in over 90 per cent calving for mated cows, compared to a rate of about 60 per cent using traditional management methods.

A village-level approach might be adopted by the Livestock Division of MAFF in Timor-Leste under the guidance of ACIAR. This is being studied by MAFF Agribusiness and by GTZ for introduction in Covalima and Los Palos, both places where GTZ will establish a field office very soon.

Co-operative Café Timor Cattle Exports

The cattle industry in Timor-Leste needs to significantly improve performance to fully realise the potential of creating a 25 million dollar industry and very significant earnings from exports to Indonesia. The cattle business can be bigger than coffee as an export earner for Timor-Leste.

Co-operative Café Timor (CCT) creates markets for farmers to make sure this opportunity is realised for farmers. CCT aims to diversify and improve rural incomes with a minimal of technology, economic risk and investment by small holders.

Young bulls are placed with farm families to stall feed (cut and carry) for later export to Indonesia or for sale to the high-end local market.

150 kg bulls are purchased as yearlings, with an average weight 150 kg, for a price of US\$150-\$170 per head. These are placed with qualifying farm families and after 8-12 months, with bulls weighing a minimum of 280 kilograms, farmers are paid US \$1.10 - 1.14 per kg for the **net weight gain** ($280-150 = 130 \text{ kgs} \times 1.10 = \143). The overall cost to CCT for the animal is \$310; the sum paid to the original producer of the young animal \$150-\$170 plus the amount paid to the farmer fattening the animal to 280 kg (another \$143).

After deducting expenses, and based on two bulls per family, farmers earn approximately US\$215 a year, which is more than half the average rural family annual income in Timor Leste.

About 1-3 hours per day of labour is required to look after the animals; mainly labour to cut-and-carry forage.

The finished cattle are either exported directly to West Timor via Suai, or via Dili. Animals undergo a veterinary inspection inside Timor Leste and stay in quarantine on the West Timor side of the border for a period of up to two weeks.

CCT currently collects all bulls to a "finishing" facility in Dili and Suai where the animals are fed on concentrate feed to achieve more uniform size and to aggregate sufficient numbers for the minimum export of 50 head.

Profit margins for CCT are currently low due to start-up costs and the unavoidable, steep learning curve, but no one is losing money. The model is proven in sim-

plicity and efficiency in West Timor where the local cooperative handles nearly 12,500 head per year. CCT exported about 100 bulls in 2005, and in 2006 about 300 head (to September 2006). Total numbers exported so far, by CCT, are around 400 head^{1/3}.

The illustrative budget for the CCT operation is shown in the table. One cost that needs to be reduced is the high cost of establishing forage which is expensive due to the

high cost of transporting forage trees (about 5 cents to transport to site, compared to about 2 cents to produce the seedlings in the nursery).

Table: Illustrative Budget for CCT Cattle Operation at the Farm Level

	\$ per head	Notes:
Gross Income in West Timor	\$416	320 kg at \$1.30 per kg
Less: Freight, quarantine, visas	50	
Feedlot feed costs in Dili	40	40 kg weight gain in feedlot
Purchase of bull from farmers	310	280 kg at \$1.10
Sub-total CCT costs:	\$400	
Net to CCT	\$16	
Income to farmers	\$310	
Less: CCT operational & financial	46	(30% of net weight gain value)
Ropes and vaccines	5	
Freight to farm	10	
Purchase of 150 kg bull	150	150 kg at \$1.00 per kg
Sub-total Farmer costs:	\$211	
Net to farmer	\$99	
Farm income for 2 head:	\$198	\$208 gross of freight to farm Based on MAFF L/Stock Div. costs for establishing forage, 10,000 kg of forage per ha fresh weight, 15 year life.
Less: Forage costs	35.21	
Fertiliser maintenance	7.19	Per head
Cost of housing	24.00	Bush materials. 4 men for 6 days to construct, 3 year life.
Water supply	0.00	Not costed
Sub-total forage and housing costs:	\$66.40	
Net farmer Income from cattle	\$131.60	
Labour (days):	90	3 hours per day for 8 months
Net Return per Labour Day:	\$1.46	

Calculating Gross Margins for Subsistence Cropping

The Agribusiness Directorate has produced a training guide: "How to Calculate Gross Margins for Subsistence Cropping". In most subsistence farming situations some of the harvested crop is sold in the market and some is consumed on the farm by the family and by livestock. This makes it more of a challenge to collect gross margin data for subsistence farm enterprises than for commercial enterprises where all of the production is sold in the market. Commercial farmers also tend to have better records.

What is a Gross Margin (GM)?

Gross Margin = Gross Income – Variable Costs

Variable Costs are enterprise specific costs such as seed, fertilizer, paid labour, chemicals. These costs vary with the scale/size of the enterprise and are directly attributable to the enterprise.

Overhead costs, which are excluded from gross margins, cannot easily be identified for particular crop or livestock enterprises. These include rental for land, interest on capital (because machinery often works over several crop enterprises), depreciation on machinery, taxes, managerial labour, electricity, administration costs, and fuel that cannot be allocated to enterprises.

Profitability measures that can be calculated from a gross margin analysis include:

- Gross Margin per unit area (normally per hectare)
- Gross Margin per labour day (normally for unpaid family labour)
- Gross Margin per dollar of variable costs
- Benefit to Cost ratio

Commercial farmers generally try to maximize returns to limiting resources. Usually the limiting resource is land, so gross margins are normally expressed per unit area (per hectare). However, limiting resources can also be labour and capital; hence the calculation of gross margin per labour day and per dollar invested in variable costs.

We use Gross Margins to:

- Work out if an enterprise is profitable.
- Compare profitability of different enterprises (on the same farm).
- Compare the profitability of the same enterprise on different farms.
- Compare profitability of technologies based on

extension or science information (e.g. Integrated Crop Management for rice).

- Compensate farmers for land acquisition.
- Monitoring farm / enterprise performance over time.

A simple gross margin example and profitability calculations

	<u>Per Ha</u>
Gross income:	\$800
Variable costs:	500
Gross margin =	\$300
Labour days:	150 days
Gross margin:	\$300 per hectare
GM per labour day:	\$2.00 (for unpaid family labour)
GM per \$ of variable costs:	\$0.60
Benefit to cost ratio:	8:5 or 1.6

Gross Margin example

The table (p16) shows a simple Gross Margin for wet season rice with supplementary irrigation. In this model, rice is consumed by the farm family and sold to earn income, so there are cash and non-cash components of income. In the example there is no bran or straw consumed by livestock (rice is sold as paddy with bran on, the miller keeps the bran from the rice consumed by the family, and straw is burned). Seed is retained from the crop harvested and is not purchased.

Mixed cropping systems

The wet season rice gross margin example is a monocropping situation - only rice is grown in the paddy field. Often in subsistence agriculture, more than one crop is planted in one plot. If there are only two crops, for example peanuts row planted with potatoes, then the gross margin can be calculated for the two crops combined (as a two-crop system) or an attempt can be made to apportion the costs to each crop in proportion to the amount of land each crop occupies (e.g. 60% / 40%). If certain activities, or chemicals, are specific to only one crop, the entire cost for this activity can be apportioned to that crop.

If many crops are planted in one plot, as is common in slash-and-burn agriculture where tree crops can be planted with an under-story of bush crops (like cassava) and ground crops (like sweet potato) plus a range of other

crops, it is generally too difficult to attempt to calculate a gross margin for such a mixed system.

If you would like a copy of the Gross Margin training guide please send an email to Adelino Rego, Director of Agribusiness, at agribusinessTL@yahoo.com.au and a PDF file will be emailed to you.

The guide covers additional topics such as how to construct a **sensitivity analysis** table for the change to gross margin with a change in yield and a change in the price of rice, and how to calculate the break-even yield (when

gross margin is exactly zero). The guide also explains the limitations of gross margin analysis, how to deal with unpaid family labour, and contains forms for collecting gross margin data for crop enterprises, including mixed cropping.

Gross Margin for Wet Season Rice with Supplementary Irrigation

	<i>Per Hectare</i>	Units	Price \$	Quantity	Cash	Non Cash	Total \$
Gross Revenue:		Kg Paddy	0.125	2,000			250.00
	Consumed			640		80.00	
	Retained as seed			100		12.50	
	Sold			1,260	157.50		
Total Income:					157.50	92.50	\$250.00

Variable Costs:

Per tonne costs

Packaging		Sacks ^{/1}	0.20	54	6.81	4.00	10.81
Hired labour ^{/2}	Harvesting	Man/days	2.00	8	16.00		16.00
sub-total per tonne costs:					22.81	4.00	\$26.81

Per ha. costs

Land Preparation	2 passes	Per Ha	32.50	2	65.00		65.00
Seeds	Own seeds	Kg	0.125	100		12.50	12.50
<i>Fertilizers:</i>							
	Urea	Kg	0.18	100	18.00		18.00
	Phosphate	Kg	0.24	50	12.00		12.00
	Potassium	Kg	0.30	25	7.50		7.50
Pesticides		Litre	12.00	1	12.00		12.00
Hired labour ^{/2}	Planting	Man/days	2.00	10	20.00		20.00

sub-total per ha. costs:					134.50	12.50	\$147.00
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Total variable Costs:					157.31	16.50	\$173.81
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Gross margin					0.19	76.00	\$76.19
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Family labour Man/days **57**

Gross Margin per Labour Day \$1.34

Notes:

^{/1} Assume 20 sacks are recycled from the previous year. Total sacks used = 54

^{/2} Hire labour for planting and harvesting. Land preparation using hired tractor.

Source: Adapted from Oxfam survey November 2003 - Feb 2004; FAO 2004

MAFF Market Survey of Wholesale Fresh Produce Prices

The MAFF Directorate of Agribusiness now undertakes a survey of wholesale fresh produce prices.

The number of produce items recorded now includes only popular fruit and vegetable lines (Table 1); when the survey is well established the number of items to be included in the survey may be expanded to include cereals (e.g. rice, wheat, corn) and pulses (e.g. mung beans, peas and beans not in the pod, lentils), as well as fresh meat and livestock.

Data was first collected in Comoro Market in March 2006; however, this data collection was disrupted by the civil disturbances that occurred at the end of April 2006.

In August the survey was begun in Baucau, and September in Maliana. The plan for 2007 is to consolidate the data collection in Baucau and Maliana but, all being well, data collection may be expanded to Maubise which is one of the main distribution centres for fruit and vegetable.

The survey methodology is explained in the Agribusiness Directorate publication: *The Survey of Wholesale Fresh Produce Prices: A Guide to the Method and Reports*, May 2006.

sale Fresh Produce Prices: A Guide to the Method and Reports, May 2006.

Fresh produce price information is collected by Agribusiness staff using Key Informants in the markets; this data is entered into an Excel spreadsheet which converts volumetric price data to prices per kilogram. The price per kilogram data is then entered into the FAO Agri-Market database (structured on Microsoft Access) to produce price reports. The price reports generated include:

- Monthly Average, Minimum, Maximum Prices for Period (Table 2)
- Monthly Comparative Price Report by Market for Period
- Daily Average Wholesale Prices for a Particular day
- Monthly/ Weekly Average Prices by Commodity for Period

Continued on next page...

Table 1: List of commodities for which wholesale fresh produce market price data is collected

Vegetables sold in bulk containers	Vegetables and fruits sold one-by-one	Imported vegetables sold to wholesale by Supermarkets
101. Small carrots / Wortel kecil	110. Small cabbage / Kol kecil	301. Large carrots / Wortel (besar)
102. Large carrots / Wortel besar	111. Medium cabbage / Kol sedang	302. Large white onions / Bawang Bombay
103. Small potatoes / Kentang kecil	112. Large cabbage / Kol besar	303. Large red onions / Bawang Merah
104. Large imported potatoes / Kentang besar	201. Cooking banana / Banana fatuk	304. Large potatoes / Kentang besar
105. Small tomatoes / Tomat kecil	202. Eating banana / Banana singapura	305. Small potatoes / Kentang kecil
106. Medium tomatoes / Tomat sedang	203. Small papaya / Pepaya kecil	306. Large tomatoes / Tomat (besar)
107. Large tomatoes / Tomat besar	204. Medium papaya / Pepaya sedang	307. Large garlic / Bawang putih besar
108. Small local garlic / Bawang putih	205. Large papaya / Pepaya besar	
109. Large imported garlic / Bawang besar	206. Small pineapple / Nenas kecil	
113. Small onions / Bawang kecil	207. Medium pineapple / Nenas sedang	
114. Large imported onions / Bawang bombay	208. Small avocado / Avocado kecil	
115. Medium eggplant / Terong sedang	209. Large avocado / Avocado besar	
116. Long beans / Kacang panjang	210. Small mango / Has kecil	
117. String beans / Kotok nurak	211. Large mango / Has besar	
118. Small squash / Baria kecil	212. Small watermelon / Semangka kecil	
119. Large squash / Baria besar	213. Medium watermelon / Semangka sedang	
120. Small onion leaf / Daun bawang kecil	214. Large watermelon / Semangka besar	
121. Large onion leaf / Daun bawang besar		
123. Ginger / Jahe		
124. Medium cucumber / Ketimun sedang		
125. Long chili / Aimanans panjang		
126. Short chili / Aimanans pendek		

Graphs are useful because they show clearly commodity price movements over a period; most reports can also be displayed in graph form (Figure 1).

method is proven to be 'workable' and MAFF Agribusiness staff have gained new skills whilst implementing the survey.

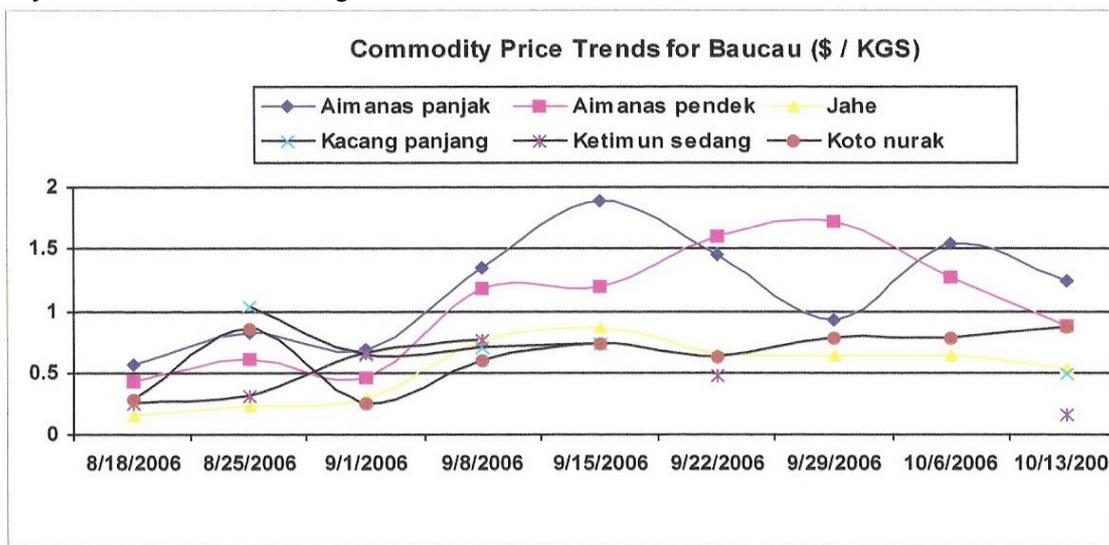
The current data is 'provisional' because it still needs to be checked for any errors or gaps in the data which are inevitable with a new survey. The survey

Table 2: Format for Monthly Average, Minimum, Maximum Periodic Price Report

Monthly average, minimum, and maximum prices by market from 3/3/2006 to 11/4/2006

Commodity	Unit	Month	Average	Min	Max
MARKET					
Fruit					
Avocado besar					
\$/KGS	Comoro	2006-03	0.15	0.15	0.15
\$/KGS	Comoro	2006-04	0.17	0.16	0.20
Avocado kecil					
\$/KGS	Comoro	2006-03	0.52	0.12	0.93
Banana makan					
\$/KGS	Baucau	2006-08	0.14	0.05	0.25
\$/KGS	Baucau	2006-09	0.15	0.12	0.17
\$/KGS	Baucau	2006-10	0.15	0.14	0.16
\$/KGS	Comoro	2006-03	0.18	0.13	0.25
\$/KGS	Comoro	2006-04	0.13	0.09	0.15
\$/KGS	Maliana	2006-09	0.19	0.16	0.23
\$/KGS	Maliana	2006-10	2.50	0.18	9.47
\$/KGS	Maliana	2006-11	0.15	0.15	0.15
Banana masak					
\$/KGS	Baucau	2006-08	0.10	0.06	0.12
\$/KGS	Baucau	2006-09	0.21	0.17	0.31
\$/KGS	Baucau	2006-10	0.18	0.15	0.20
\$/KGS	Comoro	2006-03	0.15	0.10	0.18
\$/KGS	Comoro	2006-04	0.26	0.11	0.71
\$/KGS	Maliana	2006-09	0.14	0.11	0.18

Figure 1: Weekly Price Trend for Selected Vegetables in Baucau Market



Dezenvolve Setor Privadu (DSP): a USAID project implemented by DAI

The Agribusiness Unit of DSP works towards expanding local production and trade by identifying market opportunities and establishing linkages between buyers, trader/wholesalers, and suppliers. DSP's efforts are directed at supporting traders to provide instruction and demonstration to their farmer suppliers on simple technologies and techniques for improving product quality and volume, and resolving transport and storage constraints.

Fresh Product Initiatives

In 2006, DSP conducted a study on demand for fresh product by buyers, including supermarkets, hotels, restaurants, caterers, and institutional buyers. The study focused on fresh vegetables, herbs, and seafood. Since this time, DSP has searched for potential partners for initiatives to improve the supply chain and marketing in each of these areas.

Initial focus is on the horticulture area. The primary objective is to target institutional buyers. However, a parallel strategy of strengthening operations with existing buyers and locally available products, as well as developing specialized horticulture areas with new products targeted to high-end buyers will reduce risks and overhead costs. Harvesting and post-harvest handling will be a key focus, including cold chain development. However, improvements in planting and production scheduling will also be important for improving availability and quality of products already grown in Timor-Leste.

Since December 2006, DSP identified a local horticulture marketing business to partner with DSP and interested buyers to increase volume and quality of locally supplied fresh produce. Furthermore, DSP has identified a commercial horticulture venture in Bali that can provide training and technical services to both the busi-



Carrots graded and cleaned for local supermarket

ness and the farmer suppliers.

The first delivery of vegetables to a local supermarket took place in early February 2007. DSP assisted the business and its suppliers to select and maintain quality by grading, cleaning, cooling and packaging the product during transit. This included instruction to farmers in harvesting and post-harvest handling in 5 locations in 2 districts. The supermarket will test consumer demand for the product in its two outlets in Dili. DSP and the local enterprise will target other buyers, including direct sales to hotels and restaurants, in the coming months.

DSP will soon be initiating a similar strategy for seafood supply.

Village-Level Coconut Enterprise Initiative

DSP has investigated opportunities for development of the coconut industry. The crisis and other constraints in Timor-Leste limit competitiveness on the world markets. However, given that coconut oil has traditionally been consumed in Timor-Leste, particularly in Portuguese times, potential exists for promoting coconut products for the domestic market.

DSP has provided training and new technologies to village-level enterprises and community-based organizations in Baucau, Viqueque and Lautem districts. This has focused on virgin coconut oil and soap production. The virgin coconut oil is much higher quality than traditional oil, and has a vastly increased shelf-life.



Demonstration of new hydraulic press

Production improvements have been accompanied by initiatives to identify appropriate packaging and labeling, and also market the products. Samples of soap and oil are being distributed to hotels, supermarkets, kiosks and restaurants to promote the product.



Locally produced virgin coconut oil

Cattle Trade Initiative

DSP recently initiated activities in the cattle sector. Activities focus on linking rural traders and farmers to market opportunities. This includes supply of young bulls to the CCT cattle fattening program. In January 2007, DSP facilitated the sale of 42 head of cattle valued at US\$5,700. This involved 8 traders and 17 farmers from Bobonaro, Lautem and Covalima districts. Training was provided directly to a total of 17 persons on cattle selection to ensure they meet buyer specifications, as well as transportation techniques for cattle. This provided traders and farmers from the eastern districts with renewed markets following restricted trade due to the security situation. The traders from the western districts benefited from alternative markets to the risky illegal cross-border trade to West Timor. DSP plans to identify additional farmers, traders and buyers to build a network for increased cattle trade.

Commodity Expansion Initiative

In association with MAFF and other agencies, DSP has been investigating potential opportunities for domestic supply and export to West Timor of commodities such as mungbeans. This has been based on preliminary indications that there is demand for the product, and that it is already a primary source of cash income for rural farmers. A number of market opportunities exist for mungbeans

both domestically and in Indonesia.

A preliminary assessment by DSP suggests that supply can be increased through input and technology improvements, as well as technical assistance on harvest and post-harvest handling. Physical facilities for improved storage may also be necessary depending on the target market. DSP's approach to commodity expansion will be to partner with existing local traders and large producers to expand the volume and quality. Information will be provided on buyers and product specifications, and as required extension materials and support will be provided to ensure buyer specifications are met.



Local varieties of mungbeans



Imported product in local supermarket

Mina-nuu

Produto

Timor

Leste



Virgen

Price / Bootle
\$ 0.85

What is mina-nuu virgin from Timor-Leste?

This mina-nuu is made from local coconuts using a natural fermentation method. This method was introduced from the Philippines. This fermentation means it is all natural, does not use preservatives, and no heating was required to make this product. Therefore, this oil will last much longer than traditional coconut oil. Most virgin coconut oil products will last for at least a year.

What is mina-nuu used for?

Mina-nuu can be used for many things, including:

- Salad dressing
- Cooking vegetables, meats and fried desserts
- Hair and skin conditioner
- Massage oil no to nic para saude mehor.
- Tonic for better health

Why should I use mina-nuu rather than other oils?

- It tastes great for cooking on special occasions
- It smells great as a hair or skin conditioner
- It feels great and makes your skin soft
- Its great for nutrition, with plenty of protein for your child
- Contains more lauric acid than other oils, which is effective in prevention and treatment of illnesses and disease
- It contains less harmful cholesterol than many other oils
- By buying this product you will help support Timor-Leste's farmers

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