

**Ministry of Agriculture and Forestry  
National Agriculture and Forestry Extension Service  
Program of Capitalization in Support of Rural Development Policy  
Central Unit  
Lao P.D.R**



**Diagnostic Study of the Agricultural and Agribusiness  
Sectors**

**December 2006**

**PCADR/UC**  
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**Executive Summary(to be revised)**

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## ABBREVIATIONS

|             |   |
|-------------|---|
| AEA         | AGRO-ECOSYSTEMS ANALYSIS                                |
| AFTA        | AEAN FREE TRADE ASSOCIATION                             |
| ASEAN       | ASSOCIATION OF SOUTHEAST ASIAN NATIONS                  |
| CEPT        | COMMON EFFECTIVE PREFERENTIAL TARIFF                    |
| DAFO        | DISTRICT AGRICULTURE, FORESTRY AND EXTENSION OFFICE     |
| ECS         | ECONOMIC COOPERATION STRATEGY                           |
| ACMES       | ECONOMIC COOPERATION STRATEGY PLAN OF ACTION            |
| GDP         | GROSS DOMESTIC PRODUCT                                  |
| GMP         | GOOD MANUFACTURING PRACTICES                            |
| GMS         | GREATER MEKONG SUB REGION                               |
| GOL         | GOVERNMENT OF LAOS                                      |
| IRRI        | INTERNATIONAL RICE RESEARCH INSTITUTE                   |
| JICA        | JAPAN INTERNATIONAL COOPERATION AGENCY                  |
| KIP         | NATIONAL CURRENCY UNIT OF LAOS                          |
| LaO PDR     | LAO PEOPLE'S DEMOCRATIC REPUBLIC                        |
| LAOS        | LAO PEOPLE'S DEMOCRATIC REPUBLIC (LAO PDR)              |
| LECS        | LAO EXPENDITURE AND CONSUMPTION SURVEY                  |
| LNCCI       | LAO NATIONAL CHAMBER OF COMMERCE AND INDUSTRIES         |
| MAF         | MINISTRY OF AGRICULTURE AND FORESTRY                    |
| MARD        | MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT (VIETNAM) |
| MCPTC       | MINISTRY OF AGRICULTURE AND FORESTRY                    |
| MOAC        | MINISTRY OF AGRICULTURE AND COOPERATIVES (THAI)         |
| MOC         | MINISTRY OF COMMERCE                                    |
| MOI OR MOIH | MINISTRY OF INDUSTRY AND HANDICRAFTS                    |
| MPDF        | MEKONG PRIVATE SECTOR DEVELOPMENT FACILITY              |
| NAFES       | NATIONAL AGRICULTURAL AND FORESTRY EXTENSION SERVICE    |
| NAFRI       | NATIONAL AGRICULTURAL AND FORESTRY RESEARCH INSTITUTE   |
| NEM         | NEW ECONOMIC MECHANISM                                  |
| NPEP        | NATIONAL POVERTY ERADICATION PROGRAMME                  |
| NPK         | NITROGEN, PHOSPHATE AND POTASSIUM                       |
| NRM         | NATURAL RESOURCES MANAGEMENT                            |
| NTB         | NON-TARIFF BARRIER                                      |
| NTFP        | NON - TIMBER FOREST PRODUCT                             |
| O & M       | OPERATION AND MAINTENANCE                               |
| PAFS        | PROVINCIAL AGRICULTURE AND FORESTRY SERVICE             |
| PIP         | PUBLIC INVESTMENT PLAN                                  |
| PPO         | PROVINCIAL PROJECT OFFICE                               |
| PPTA        | PROJECT PREPARATION TECHNICAL ASSISTANCE                |
| PRS         | POVERTY REDUCTION STRATEGY                              |
| SEFCP       | STATE ENTERPRISE FOR FOOD AND CROP PROMOTION            |
| STEA        | SCIENCE, TECHNOLOGY AND ENVIRONMENT AGENCY              |
| UNDP        | UNITED NATIONS DEVELOPMENT PROGRAM                      |
| WTO         | WORLD TRADE ORGANIZATION                                |

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## 1. Agriculture Sector Constraints and Opportunities

### 1.1 Productivity, Production and Marketing

Agriculture employs 85 percent of the national workforce and remains predominantly subsistence. In 2000, crops accounted for 54% of output, livestock and fisheries 36% and forestry 10% of the sectoral GDP. Rice is the anchor of the Lao farming system. Rice accounts for over 90% of total crop production. Nearly 95% of farming households grow rice for their own use. Glutinous rice accounts for over 90% of total planted area. Because of high post harvest and milling losses (55 to 60%), Laos needs to produce 400 kg of paddy/capita to obtain the 180 kg/capita of milled rice consumed. With a population of 5 million people, Laos needs to produce 2 million tons annually for rice self-sufficiency. Laos has experienced rice deficits consistently until 1998 when the country began to achieve a small surplus.<sup>1</sup> Production needs to increase by 50,000 tons annually to keep pace with the population growth rate of 2.6% per year.

Although agriculture remains the dominant sector of the Lao PDR national economy, investments in the sector from all sources (donor and Government) have averaged less than 16% of the national PIP budget. Agriculture growth was about 4% in 2001, less robust than in previous years. With primary production being largely for subsistence and being not well integrated into a sub-regional or regional economy, agriculture has been partly insulated from the effects of the regional financial crisis. Agricultural productivity remains low at about \$542/worker-year. This is compared with \$1,300/worker-year in Cambodia, \$2,033/worker-year in Vietnam and \$2,615/worker-year in Thailand.<sup>2</sup> The average household income from farming in Lao PDR is about \$200/ha. This is compared with \$350 in Cambodia \$857/ha in Thailand and \$420/ha in Vietnam.<sup>3</sup>

Agricultural constraints in the Lao PDR center around the pre-dominance of subsistence agriculture in the Lao PDR. Rice is the dominant crop, occupying 68% of the total cultivated area (of 1.8 million ha, according to satellite imagery). Input use is very low. Rice yields are still low by Asian standards; national average yields are within the relatively low range of 1.5 to 3.0 tons per hectare.<sup>4</sup>

Farming systems are rice based, and diversification in Laos depends on the ability of farming households to maintain rice security. When this is achieved, resources are released for cultivation of non-subsistence cash crops including commercial rice (both glutinous and special varieties), field crops, and specialty products such as non-timber forest products. The choice of options depends on the farmer's access to market information, physical access to markets, access to technology and inputs, and access to capital and credit facilities.

Other annual crops and permanent crops account for only 9% and 8%, respectively, highlighting the predominant role of rice and of subsistence farming in the Lao PDR agricultural economy. Agricultural productivity is low due to inefficient practices, low input use<sup>5</sup>, and low farm mechanization. This is primarily due to the predominance of subsistence-oriented rice production whereby farmers adopt low input methods to meet subsistence needs at minimal cost. Only 28% of households used chemical fertilizers in 1999, and less than one third of households use any form of mechanization.

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<sup>1</sup> Rice production increased from 1.5 million tons in 1989 to 2.3 million tons in 2001. The increase in production is attributed to: (i) expansion of minor irrigation (40%) and to (ii) development and release of improved rice varieties (9) developed by IRRI/NAFRI.

<sup>2</sup>Source: Calculated from economic data supplied by <http://www.cia.gov/cia/publications/factbook/geos/th.html#Econ>.

<sup>3</sup>PIP, LECS 2 and ADB Small Holder Development Project RRP

<sup>4</sup>This is compared with 2.5-3.5 tons/ha/crop in Thailand and to 3.5 to 4.2 tons/ha/crop in Vietnam

<sup>5</sup>On average, Lao farmers, using NPK fertilizer, apply 10-20 kg/ha compared with 70-80kg in Vietnam and Thailand. Although improved seed varieties have been developed and released by Lao IRRI, the majority of Lao rice farmers still use traditional varieties.

About half of all households keep buffaloes for draught power, and a third have cattle (the average number of cattle per household is higher than that for buffalo, though). Pig raising is also common. However, only a third of households currently vaccinate their cattle. The livestock trade with Thailand is significant, but poor cattle and livestock health hamper this trade and expose farmers to the opportunistic and rent-seeking behavior of middlemen and unscrupulous officials. Fish is a major source of protein, accounting for 40% of total protein intake. Fish farming is characterized as extensive low density without feeding to semi-extensive farming with a small amount of feeding. Despite the Government's support through the operation of fish stations with hatcheries, mortality rates have been high. The main constraints are lack of technical capacity and lack of a consistent technology for fish breeding.

The low intensity and low productivity of Lao agriculture is attributed to: (i) producer household risk aversion livelihood strategies (i) limited number of input suppliers<sup>6</sup>; (ii) the lack of information concerning input use created by the absence of viable extension mechanisms (both public and private sector) throughout the country; (iii) lack of adequate working capital and access to credit; and general lack of access to markets because of physical barriers created by poor roads, high transport costs<sup>7</sup> and a constrained marketing system where a limited number of traders tend to dominate market transactions for produce that moves beyond village boundaries to the succeeding links in the marketing chain.<sup>8</sup> The marketing of agricultural products in Lao PDR tends to be regionally confined, resulting in significant variation in market prices from region to region.. Such regionally unbalanced markets are created by: (i) formal and informal regulations that prevent free movement of goods, (ii) prohibitive fees and administrative costs, (iii) poor access roads, and an underdeveloped farm to market road network; (iv) transportation shortages and high transport costs; (v) small urban demand; and (vi) interregional transport fees and controls in Lao PDR.

Low technical expertise; limited access to domestic and international markets for inputs and outputs; lack of access to market information, constraints to export, inter-provincial, and external trade; low domestic demand, and the dearth of local agribusinesses are other main reasons why agricultural production has been inefficient.

Limited human resource capacity, poor agricultural support and delivery services, and lack of medium- and short-term credit and other financial services hamper agricultural development. As well, the high cost of transportation because of lack of physical infrastructure marketing infrastructure is a major constraint to the flow of goods and services.

To stimulate growth in agriculture and to raise rural incomes, private sector commercial strategies and initiatives, supported by an enabling and market friendly legal and policy environment are needed to help the Lao PDR move beyond subsistence farming to more diversified, commercial agricultural production by assisting subsistence and semi-commercial farmers to transit from their present low input systems to more productive, higher input, and profitable commercial farming enterprises.

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<sup>6</sup>There are only 57 very small input supply outlets with an average monthly turnover of 500 to 2,000 kg per outlet monthly fertilizer sales in the entire Mekong corridor area of Lao PDR. Source MAF, *The Government's Strategic Vision for the Agricultural Sector*. November 1999.

<sup>7</sup>Transport costs in Laos average 7.5 Baht per ton-km on good roads and 13.1 Baht/ton-km on poor roads. In Thailand, the average transport cost is 3.2 Baht/ton-km.

<sup>8</sup>Marketing costs and margins for raw produce trade between the farm-gate and retail markets in Vientiane add some 84% to the produce costs of urban consumers. This is compared with an average 23% in Thailand. The difference represents lower Thai transport costs as well as higher Thai market chain efficiency from economies of scale within a more competitive marketing environment with less government regulation and interference in marketing mechanisms.

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Livestock, an integral part of most family farm systems, contributes to almost half the average income of farmers. The Lao PDR has a comparative advantage among the neighboring export markets, and there is considerable potential to increase livestock production and value added products for export. Major constraints to the expansion of livestock production are lack of an integrated program of animal health, nutrition, and breeding; and lack of support services in marketing and market information systems. By improvements in livestock health and mortality farmers can ensure better farm household income. Similarly, Lao PDR can achieve comparative advantage in fish farming, *vis-à-vis* its neighbors, by applying the appropriate technology for breeding and rearing of fish.

The irrigated areas on the floodplains of the Mekong and its tributaries produce most of the country's marketable surplus of rice and other crops. About one fourth of households in this region grow maize, and about one third grow some form of vegetable crops, either in irrigated fields, kitchen gardens, or along riverbanks. Commonly grown vegetables include chili, cabbage, cucumber, eggplant, onion and garlic. Other non-rice crops include sugar cane, peanut, tobacco, sesame, and fruit trees (most notably mango and tamarind). Overall, however, non-rice crop production and quality remain low even in the most highly productive agricultural areas because of low technical know-how, limited access to domestic and international markets for inputs and outputs, and low domestic demand because of the limited size of markets and dearth of local agribusiness.

Despite the constraints currently faced by Lao agriculture, some Lao agricultural commodities are exported through unofficial border trade mechanisms to the People's Republic of China, Thailand, and Viet Nam. These include maize, soybean, chili, groundnut, cotton, tobacco, sesame, red bean, cabbage, banana, tamarind, watermelon, mulberry bark and other non-timber forest products, buffalo, cattle, and pigs.<sup>10</sup> The fact that such trade with neighboring countries takes place suggests that a demand for some Lao agricultural products exists. Crops identified as having potential for export and/or import substitution based on comparative advantage analysis are maize, peanut, soybean, sesame, sunflower, sorghum, and safflower for field crops; grape, mandarin, sapodilla, orange, durian, rambutan, cashew, longan, and tamarind for fruits; and coffee, sugar cane, cotton, and sericulture among industrial crops. By ensuring that AFTA rules are enforced, Lao agricultural produce should be able to enter Thailand and Viet Nam freely, thereby benefiting farmers from better prices and the country from more trade.

## **1.2 Market Distorting Regulations and Practices that Discourage Agribusiness Investments<sup>9</sup>**

According to the World Bank evaluations, the Lao PDR remains the most difficult country in which to conduct business in Southeast Asia. The problems are legendary and well known. The AMD component, operating through the Ministry of Commerce and Industry, is assessing business constraints such as business registrations, permits and licenses to transport agricultural commodities, non-tariff barriers at borders and other procedures and practices which constrain and discourage commodity and produce marketing. There is clearly a need to promote a fully business friendly regulatory environment and is working actively to achieve this objective.

The Government's long-range agricultural commercialization strategy is to encourage regional investors to work directly with small holders to strengthen market linkages, supply production technology and provide direct technical inputs to upgrade the quality of Lao

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<sup>9</sup> This section summarizes policy issues and practices that tend to distort markets and restrain trade. For a full description of the policy and regulatory environment, review Experience, Inc./Lao Consulting Group. Small Holder Development Project, Final Report Appendix 3, June 24, 2002. This report can be downloaded at <http://www.adb.org/Publications/default.asp>.

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agricultural and livestock produce. In the short-term, the focus is on promoting regional investments in value- adding infrastructure such as dryers, graders and sorters for animal feed corn and other products. This will enable Lao farmer groups to operate competitively in regional markets with some local value adding and with re-enforced linkages to large cross border agroprocessors such as CP in Thailand. It is expected that Lao farmer groups will be able to supply cross border feed mills with graded and sorted raw materials in the short-term (by 2010), following these investments and cooperation through the increasingly active ACMECS (Arawaddy, Chao Phrya, Mekong, Economic Cooperation Strategy).

In the longer term, the strategic vision is to produce fully processed value- added goods such as animal feed (by 2020). At this stage, Lao PDR will become the primary producer of key product value additions. Present cross border producers will outsource finished product lines to Laos as they move into new and different product line operations. As this vision unfolds, it is expected that the Lao PDR will become strategically linked to a regional network of increasing more sophisticated value and supply chains as borders open and trade regimes liberalize.

Although committed to free trade and market-driven commercial agricultural development, the “invisible hand of Government” is often not so invisible at the local levels; although national policy is fully supportive of market-driven development.

Foreign investors contacted by the Consultant <sup>10</sup>are cognizant of agribusiness opportunities in Lao PDR in a general sense, but they perceive Lao PDR to be a very risky country in which to conduct business. Discussions with the private sector reveal that there have been very few expressions of interest in new investments. The discussions also indicated that some established companies have attempted to discontinue operations. Some investors, particularly Thai companies that have more mobility, have preferred to simply depart without formally shutting down operations. There are high transaction costs for business registrations, export licenses and other administrative processes and the weak and, sometimes contradictory and often opaque regulatory and legal framework, impose extra burdens. Foreign and foreign joint venture firms are not permitted to purchase land for business operations. Further, market-restraining regulations and practices and non-tariff barriers and other border irregularities predominate, and potential investors flag the poor raw material supply response of Lao farmers as an additional and major constraint to agribusiness viability. There is a need for greater technical and regulatory reform related assistance to be able to exploit business opportunities. A wide range of technical and regulatory interventions is, therefore, necessary for agribusiness and market development in Lao PDR.

Other weaknesses that plague the financial and business sectors relate to the legal environment. While a framework of legislation for the operation of commercial businesses has been developed, there is much uncertainty regarding it. Among the uncertainties are constraints caused by a lack of dissemination of legislation, limits on judicial capacity, incomplete repeal of legislation that is technically no longer in force, overlap between laws and between decrees, uncertainty of title registration procedures, incomplete land titling and associated high transaction costs, and time-consuming legal processes in relation to contract enforcement and debt recovery. These constraints seriously hinder sound lending by banks and discourage foreign investors and foreign banks.

Other market distorting practices include:

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<sup>10</sup> The Consultant contacted 43 Thai agribusinesses to explore their possible interest in investing in Lao PDR.

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- price ceilings on agricultural commodities and livestock in many areas;
- state commodity trading and farm-gate price impacts;
- export trading monopolies and procedural impositions;
- restrictions on trade and marketing;
- excessive regulation of the livestock sector;
- non-tariff barriers affecting the livestock and other sectors;
- non-tariff barriers and the absence of border check point transparency;
- foreign business licensing procedures;
- restrictions imposed on the movement or sale of agricultural; commodities, livestock, or related processed in a number of provinces;
- lack of transparent written information regarding the terms and requirements of operating a business, licensing procedures, and conditions and restrictions on reselling the business; and.
- government owned or abetted monopsonies and monopolies operating for a number of commodities in domestic markets.

### 1.3 Government Policies and Strategies

The Government is fully committed to a market-based economy with equitable distribution of the benefits of growth. In November 1999, the Government presented its *Strategic Vision for the Agricultural Sector*. The strategy focuses on (i) increasing rural income by developing market-oriented agriculture and by changing public institutions and policies to better serve this aim.; (ii) recognizing the preeminent role of the private sector and working to improve the business and investment environment; (iii) achieving a better balance in investments in the agricultural sector;<sup>11</sup> (iv) addressing the respective opportunities and constraints of the country's upland and low land farming systems and communities; (v) improving environmental management of the country's natural resources; and (vi) improving and sustaining investments made in supporting infrastructure (primarily irrigation, rural roads and post harvest handling. The agricultural strategy study has demonstrated that, for a range of crops (including rice, maize, peanut, sugarcane and coffee), the country's production is competitive in the region and with the application of improved technology it could be among the world's a low cost producers of several commodities. The Government has confirmed its commitment to trade liberalization.<sup>12</sup> In this context, the Government supported the promotion of market-oriented diversified agriculture as key to improving farmer livelihood and expansion of the nation's economy.

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<sup>11</sup> Forestry and irrigation have received the bulk of investments while extension, research, livestock and fisheries with high potential have been inadequately funded.

<sup>12</sup> The Lao PDR is a member of the ASEAN and is moving toward full integration into the ASEAN Free Trade Association.

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#### **1.4 The Agricultural Marketing System in Lao PDR**

Commercial agricultural in Lao PDR , where it operates, is to a large extent driven by market demand from the larger towns and demand from neighboring countries. Because of the small population and early stage of economic development, agricultural marketing is generally on a small scale. Most crops are produced fairly close to the main towns and are transported in small lots. Large- scale wholesale trade and transport over long distances is the exception (mainly for rice and coffee), rather than the rule.

At first glance, agricultural marketing practices in the Lao PDR appear disorganized and chaotic, as there are many small traders and vehicles of many types and sizes moving about in all directions. Many small collectors and traders within the urban areas are constantly on the move and operate without any permanent store or stall. The advantage of this informal system is that their investment and overhead costs are minimized and they are able to operate with lower margins in some cases. Traders without permanent places of business also avoid many fees, taxes and economic rents.

There appears to be reasonably well established trading practices. There is a regular supply to urban markets from well defined production areas. Vegetables move quickly from peri-urban farms or assembly points and generally arrive fresh at the retail markets. Trader's margins are somewhat low, even in the face of high transport costs. This is explained by competition between a large number of small farmers, collectors and transporters in the vicinity of narrow radius urban production and marketing clusters. Higher trading margins prevail for long-distance trade, such as for cabbage from the Bolavens to Vientiane. In this case, there is less competition with higher risks.

Larger scale sellers of bulky vegetables and fruits such as water melon, banana bunches, cabbage and sugar cane simply use areas of ground covered with straw mats on the outside of markets or along neighboring streets. This has the advantage of low cost and easy access for customers with cars or motorbikes.

Marketing channels are generally short. Most vegetables and much fruit are sold directly by farmers or collectors to the retailers of the town markets. They tend to use hand tractors, small 3-wheeled vehicles and trailers and sometimes pick ups. It is not unusual for farmers or family members to take places in markets to sell in retail to urban consumers without any intermediaries. The fact that some farmers sell to collectors and others deliver their produce themselves to town markets suggests that vegetable marketing is based on free competition and that the margins of peri-urban collectors are relatively small; otherwise all farmers within reach of the market would likely opt for direct selling.

Crops exported, either legally or illegally, or processed by the few operating agribusinesses such as maize, peanut, chili, soybean, sesame and red bean pass from farmers to collectors.

Longer marketing channels with more intermediaries prevail in the case of long distance trade such as trading of produce from the Bolavens supplying Savannakhet and Vientiane and the import of Thai fruit into the Vientiane area. In these instances there are real wholesalers in operation.

The marketing channel for long-distance trade is: Farmer – Collector-Provincial Wholesaler-Vientiane Wholesaler-Market Retailers-Consumers. Sometimes the Collector and/or the Vientiane Wholesaler are cut out of the chain.

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The value chain<sup>13</sup> shown in Figure 1 illustrates the marketing mechanism and transaction points for long distance marketing transactions within Laos and across borders. Most agricultural goods produced by Lao small holders at greater distances from main towns, not directly consumed by the household, are sold in local village markets. These are normally open areas where individual producers trade very small quantities of produce such as two or three cucumbers, a tomato or two and a couple of onions, etc., on crudely fashioned wooden tables or laid out on mats on the ground. The village market areas are usually covered by thatch roofing or plastic sheeting, held up by sticks and other locally available supporting material. Some village markets have produce for sale on the front porches of village houses. The volumes traded in these markets are very small (perhaps four or five kilos per day) and prices tend to show little seasonal variation. The large majority of small holder producers with low intensity farming systems tend to trade their small surpluses in the village markets. Although traders (usually rice mill owners) visit villages to buy rice directly from local producers, there is little evidence of commercial traders coming to villages to buy non-rice produce directly from small holding farmers. The reason for this is that the quantities of non-rice produce available for sale in remoter villages are too insignificant to cover the costs of transport, let alone generate profits for the trader.

At the next level of agricultural produce marketing, larger scale producers, particularly those with access to irrigated land or other moist dry season land, transport their produce to primary markets, located usually in district towns. These markets draw buyers and sellers for a range of transactions, including hard goods (hardware, refrigerators, television and stereo sets, processed foods from Thailand, etc). In addition to non-agricultural produce trading, there are also limited areas for fresh and green produce marketing at these primary market sites. The agricultural produce trading areas tend to be located in open central areas, with produce spread on tables or laid out on mats. Fresh produce trading in primary markets tend to be restricted to small zones within the market complexes. From field surveys, there are significant capacity constraints on green produce trading space, relative to trading space demand. Trading of agricultural produce at the primary markets operates at both the wholesale and retail levels. From small holders marketing their own crops, wholesale traders buy produce in bulk directly from producers and provide on-ward transshipment to the next stage of the marketing chain. The second stage is level of wholesale and retail markets in provincial capitals.

Provincial markets (many of which are owned or operated by the private sector) have physical facilities that are of significantly higher quality than those of district level primary markets. Normally, provincial markets are covered concrete buildings with hard goods traders leasing or purchasing trading stalls located in shop house structures around the market perimeter. Green and fresh produce trading takes place in the middle of these complexes with goods arrayed on concrete benches and tables under the cover of a permanent roof, shielding buyers and sellers both from the hot sun and monsoon rains. Although trading facilities at the provincial markets are physically superior to those of district markets, sanitary conditions, grading and sorting of produce are also inadequate at this nodal location.

From provincial markets, produce flows through the intermediation of traders, either to retail markets in Vientiane or to cross border transshipment points to Thailand and Vietnam. The bulk of produce traded in provincial markets is either sold locally or transshipped by traders to Vientiane area markets. There are also more limited produce flows from this point to Vietnamese and Thai traders on the other side of the borders. Most of the cross border shipments are informal, unrecorded and technically illegal.<sup>14</sup>

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<sup>13</sup> The market chain, shown in Figure 2, shows producer market linkages within and immediately beyond the proposed Project areas and is not necessarily representative of the composite nationwide situation.

<sup>14</sup> Official border trade points with Thailand, which are controlled by each relevant district office, comprise 5 points in Champassack, 4 points in Savannakhet, 3 points in Khammouane, and 5 points in Vientiane Municipality

The Thai traders buying Lao produce do so in the process of collecting produce from Thai small holders in the vicinity of contiguous Thai border districts and provinces. Lao produce purchased from Lao traders becomes co-mingled with larger quantities of Thai produce and indistinguishable from the latter when the combined shipment moves in bulk onward to Northeast Thailand regional wholesale and retail markets. Lao produce procured by Thai traders is also graded and sorted along with the Thai produce. Thai traders tend to select only Lao produce for onward transshipment that approximates the quality and sanitary standards of the comparable Thai goods in the shipment. Inferior Lao produce tends to remain in Thai border towns for consumption by the low end of the Thai consumer market. The higher quality Lao goods are commingled and move onward to inland destinations as shown in Figure 1.

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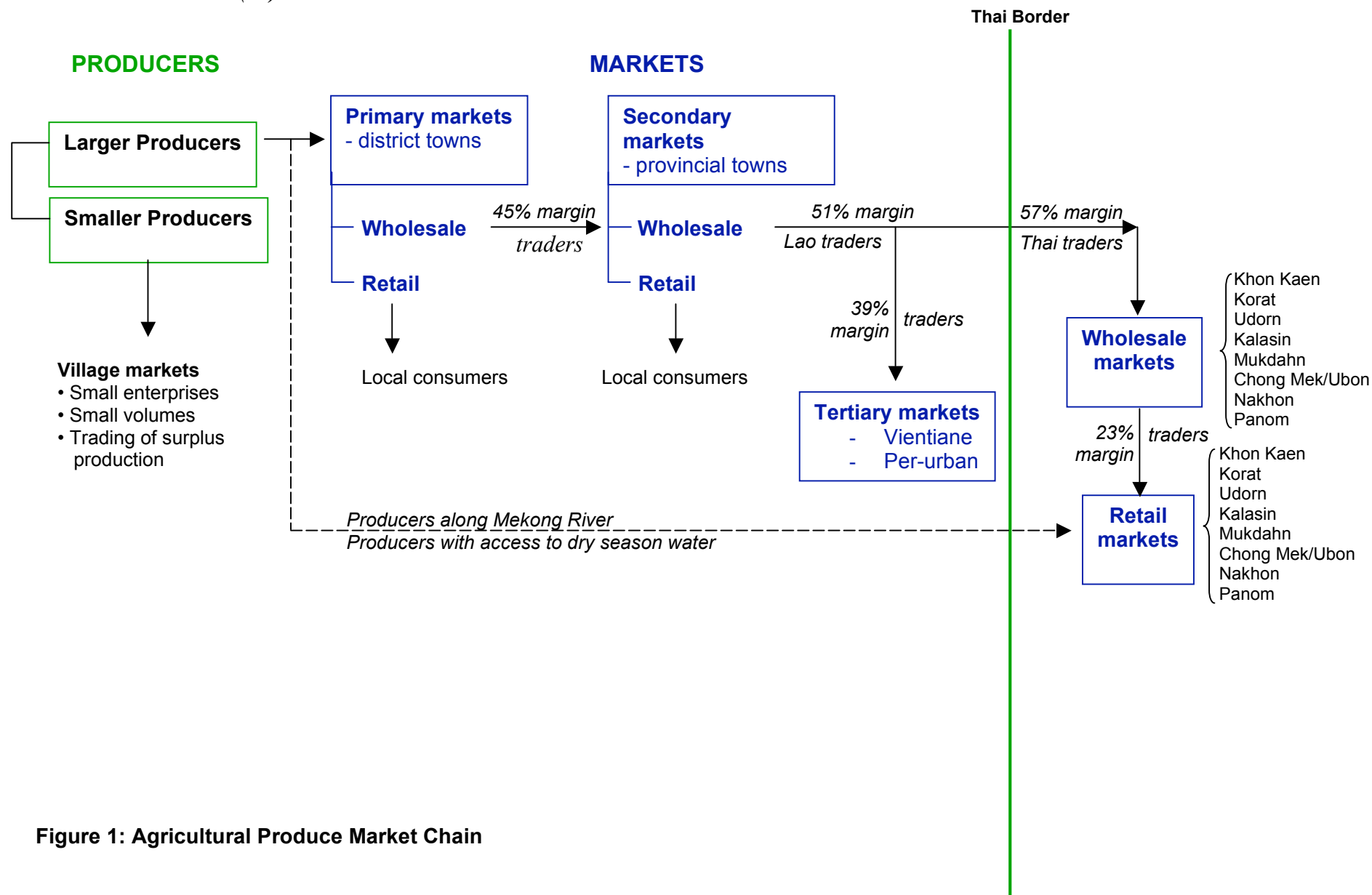


Figure 1: Agricultural Produce Market Chain

Marketing margins vary significantly depending upon distance and difficulty of access. The highest margins are for transactions at the Lao-Thai border. These reflect the marginal costs of non-tariff barriers and/or loading and unloading for informal border trade and the opportunity cost of exposure risks from smuggling operations. The higher marketing margins for onward domestic transshipments in the Lao PDR, compared with the lower margins for inland transshipments in Thailand reflect the higher costs of transport in Laos versus the lower transport costs in Thailand.

The market chain depicted in Figure 1 is the typical pattern of long distance agricultural trade for domestic and cross border markets. There are exceptions to this generalization. The Consultant's marketing chain survey<sup>15</sup> found that some farmers, particularly those growing produce along the Mekong River banks or those with access to dry season water for agriculture, often do their own direct marketing in Thailand. Farmers in this category tend to be those who make frequent visits to cross border Thai towns. They tend to be market wise in terms of knowing Thai market prices and seasonal trends. Such farmers also tend to purchase their inputs from Thai suppliers and directly acquire production technology packages from both private sector suppliers and the Ministry of Agriculture and Cooperatives (MOAC) district (Amphur) offices. These farmers derive the highest benefits from their agricultural production because they use appropriate technology, understand markets and *eliminate the middlemen* from the marketing chain. With these opportunities and initiatives, progressive Lao farmers have shown the capacity to optimize the returns to their own labor and maximize the productivity of their available land and capital resources. Direct producer to retail market linkages offer another avenue to market development by shortening the market chain, thereby reducing marketing and transaction costs with consequent gains in income and profitability.

#### **1.4.1 Rice Marketing**

Only 5% (some 110,000 tons) of the Lao PDR's total rice production is commercially marketed. The SEFCP controls 70% of the commercial trade in rice with the private sector controlling the remaining 30%.

There are a number of different marketing channels for paddy and milled rice. Farmers either sell paddy or have it milled at a small village mills or at a larger mill at the District level for sale as rice or for their home consumption. Farmers usually sell to collectors who tour the rural areas or deliver their paddy to a mill along the main road or near larger towns for a slightly higher price.

Larger farmers often have their own threshers. They also thresh paddy for smaller farmers in the area and take as payment one bag of paddy for every 10-20 bags. Sometimes a larger farmer operates a village mill and combines the functions of farmer, collector, miller and rice trader.

#### **PADDY/RICE MARKETING CHANNELS**

- Farmer-collector-miller-market retailer-consumer
- Farmer-collector-miller-small trader-market retailer-consumer
- Farmer-miller-market retailer-consumer
- Farmer-miller-consumer
- Farmer-miller province-miller Vientiane-market retailer-consumer
- Farmer<->village mill-retailer at the primary market-consumer
- Farmer<->village mill-consumer at the primary market

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<sup>15</sup> Prepared by proposed Team Leader, Dr. Steven Shepley, for PPTA 3603-LAO.

Rice millers have a choice of three different ways of operating and often combine two or three:

- Custom milling: Farmers or small traders bring their paddy to the mill. If the miller keeps the bran, there is no charge for milling. This is a common practice. The bran is sold to poultry and pig farmers or to small traders who bring their paddy to the mill. Otherwise, there is a milling fee of around K 1,500/12 kg of rice. Custom milling is usually done by small and medium size mills;
- Commercial milling: The miller buys paddy and sells rice directly to the market retailers or through intermediary traders. Millers have the requisite storage capacity and financial resources may store paddy up to 10 months to take advantage of higher prices in August and September, preceding the new harvest.
- Contract milling: For Government institutes, for the provincial Departments of Commerce, for the SEFCP, and sometimes for international organizations such as the WFP.

Rice millers in the Vientiane area often buy paddy at lower prices from Khammouan and Savannakhet. Village mills and the small District mills tend to be very busy during May and June just after the harvest of dry season paddy and during November and December following the main wet season harvest. Other millers, especially larger capacity mills, store paddy and mill during the rainy season.

#### **1.4.2 Constraints to the Marketing System**

There are several channels for marketing of agricultural produce. The State Enterprises for Food and Crop Promotion (SEFCP), import-export companies, commercial associations, and processing factories buy rice, meat and food commodities from local markets or middlemen. For purchase of rice, middlemen usually visit and buy farm products directly from individual households during the harvesting period. For non-rice produce, farmers usually must do their own marketing within their immediate areas.

In spite of some production increases over the past decade, however, the marketing system, in general, remains chaotic and underdeveloped. The marketing of agricultural products in Lao PDR tends to be regionally confined, resulting in significant variation in market prices from region to region. Inter-provincial trade is often restricted by provincial regulations, high transport costs, and lack of adequate marketing infrastructure. Informal border trade within province area boundaries is dominated by high transaction costs for trading and agribusiness operations arising from (i) formal and informal regulations that prevent free movement of goods, (ii) prohibitive fees and administrative costs, and (iii) poor access road conditions and an underdeveloped rural road network.

#### **Transportation**

Road and river transportation are the major means of agricultural trade. Agricultural products are typically transferred from farms to markets by small tractors, motor tricycles, and pickup trucks. Products in small quantity are transported to markets by, bicycles, walk behind tractors, push carts, public buses and motorcycles. Long distance transport is by trucks and boats during the wet season. Rough rural access roads and lack of proper packaging make it difficult to supply agricultural produce of quality to distant, but potentially lucrative markets. Consequently, improvement of the rural road network would stimulate commercial agriculture by (i) opening up new markets for agricultural produce in the project area and by (ii) reducing transaction costs.

### **Marketing Infrastructure**

There are no available marketing facilities for displaying of farmers' produce or efficient wholesale trading. There is a critical shortage of primary market facilities for agricultural produce. This limited farmer access to marketing opportunities and restrains the growth of wholesale trading activities. Farmers usually sell their produce directly to retail traders at the farm or at roadsides where some farmers display their goods. While rice mills and SEFCP have large warehouses for paddy and milled rice, there are very limited storage facilities for other agricultural produce. These constraints significantly limit the scope of trading for non-rice produce. Trading of fish and other perishable products usually requires cold storage facilities; these are presently non-existent in all areas. Currently, fresh fish and meat products are sold at retail markets within 12-24 hours of slaughter or capture. For products with stable demand such as vegetables, pigs and fresh chickens, some farmers within close proximity to urban areas have fixed-price supply agreements with retailers and directly deliver the commodities to retailers on a daily basis.

There are retail markets in most districts. Such markets lack modern storage facilities and retailers are required by the absence of adequate facilities store products for sale at the back of their shops. In urban areas such as Vientiane Municipality, Savannakhet and Pakse, each district has one large market with a few smaller satellite markets. The Ministry of Commerce recently issued decree No. 755/KKh, dated 26/06/2001 concerning the establishment and management of markets in Lao PDR. This decree stipulates the roles and functions of province and district authorities in organizing fixed markets (buying and selling points) for 4 categories of markets: (i) fresh commodity markets; (ii) dry commodity markets; (iii) combined fresh and dry markets, and (iv) market fairs. The decree instructs provincial and district authorities to organize a Market Management Committee for each market locality. Within the project area, public markets are managed by local market organizations attached to the District or the Provincial Commerce and Tourism Offices. The organizations collect rental fees, maintain order and discipline, and provide for market cleaning and security.

### **Market Regulations**

Since the implementation of the New Economic Mechanism (NEM) in the 1990s, all check points between provinces were theoretically removed to promote free circulation of commodities within the country. However, in practice, there are still barriers to free trade that related to the operation of the SEFCP. During the economic slow down in 1997-1998, the government reinstated the SEFCP in each province in order to restore the supply of food commodities to public institutions. While SEFCP's function is to regulate the price of food commodities, SEFCP actually fixes prices for paddy, rice and meat, which are sometimes lower than their production costs. In the late 1990s, the decentralization policy of the government transferred more authority to provinces and to the SEFCP. Consequently, private enterprises were required to transfer agricultural goods to other provinces only under the authorization of SEFCP, and in the more remote provinces, SEFCPs even control the market for agricultural inputs and set prices for agricultural produce. Private enterprises are not allowed to trade cattle without the approval of SEFCP.

Tax regimes for agricultural produce are not prohibitive. There are minimal taxes to be paid to villages, districts, and provinces in the form of business taxes, stamp taxes, market stamps, which are nominal in value. However, there are license, permits and other administrative requirements that affect trading in livestock and agribusiness operations. Elimination of restrictive regulations and State market interventions would help to create a more enabling environment for private sector investment in the agriculture sector.

## **Market Information**

There is no regular market information system to convey prices and traded volumes of agricultural commodities traded in retail markets. At the farm gate, middlemen usually set rice and livestock prices with reference to the previous season's farm gate price or production costs. There is often collusive price fixing among middlemen, putting farmers at distinct disadvantage. Consequently, price disparity across provinces for agricultural produce is relatively large, and the spreads between farm gate and retail market prices are relatively high for most produce. The regional imbalance in pricing of agricultural produce is also attributed to the high incidence of subsistence agriculture in non-accessible areas, poor condition of access roads, high transport costs, and interregional formal and non-formal trade and regulatory barriers. The prices of most freely traded agricultural commodities tend to change quickly because of rapidly changing supply conditions, except for rice and other food commodities regulated by SEFCP.

The lack of timely information on market prices of agricultural produce increases farmer vulnerability. Farmers currently receive market price signals mainly from middlemen rather than from fully competitive markets. The lack of information on traded volumes inhibits farmers from diversifying or commercializing their crop production because of the risks they fear of not being able to sell unfamiliar produce. There is a need to establish a marketing price information system to support farmers' crop diversification by promoting more competitive trading of agricultural produce.

## **Grading and Packaging**

There are no standards for packaging and grading for any agricultural commodities. Agricultural products are not sorted and are generally sold in bulk with mixed qualities. Unsorted products with various qualities, in addition to small quantity traded for each sale, limit the scope for wholesale trading and agribusiness opportunities that cater for larger regional demand.

Lack of or crude packaging (i) often causes deterioration of the product quality during handling and transportation to markets, and (ii) restricts marketing opportunities by limiting the distance that products can travel. Vegetables and fruits are sold either with no packaging or packed in bamboo or plastic bags, while imported products are sold in standard crate packages. Paddy is usually sold in 100 kg or 30 kg sacks packed in used fertilizer bags. Fresh meat is cut and sold wrapped with paper or in a plastic bag. Slaughtered chickens and ducks, and fish are often sold without packaging.

### **1.5 Market Links from the Lao PDR to Neighboring Countries**

Informal agricultural trade between the Lao PDR and neighboring countries reflects the country's comparative advantage and regional market opportunities. Immediately adjacent to the Lao PDR live at least 200 million Thais, Chinese and Vietnamese. As industrial development accelerates in those countries, paddy and agricultural land resources are being released to other economic sectors. There is a corresponding decline in food production in these countries in the face of growing populations. As a result, these populations will become significant consumers of rice, livestock, field crops, vegetables and other farm produce from the Lao PDR and other neighboring countries with underutilized land resources.

Since the move of Lao PDR toward a market economy, a number of private investors (both foreign and local) have established agro-processing units within Lao PDR to take up the slack of underutilized domestic production, for value addition closer to raw material supplies and the benefit from GSP tariff preferences to former French colonies in

Indochina offered by the European Union. This has boosted local produce demand in contiguous areas near processing plants.

With urban expansion over the past 10 years, the domestic market for diversified agricultural produce has grown, offering market opportunities to peri-urban farmers near urban centers. There is also growing interest from foreign buyers to outsource Lao agricultural produce to feed underutilized value adding capacities in Thailand, Vietnam and China.

It is well known that significant quantities of Lao agricultural produce are exported through unofficial and unrecorded border trade to Thailand, Vietnam and China in that order. The principal commodities include: maize, soybean, groundnut, cotton, sesame, red bean, cabbage, bananas, chili, garlic, tamarind, water melon, mulberry bark, NTFPs, buffalo, cattle, some pigs and goats. According to information collected during the preparation of the ADB Small Holder Development Project loan, there are some 23 items of agricultural produce exported to Thailand of which crops such as Job's Tear, sesame, maize and potatoes account for the largest volume (13,500 tons/year, 10,044 tons/year and 914 tons/year respectively).

Recent AFTA initiatives will likely serve to further boost the demand and trading of Lao agricultural produce across international borders. The most important of these initiatives is Economic Cooperation Strategy Plan of Action (ECSPA). The ECSPA spells out objectives and directions for the five areas of cooperation. It sets out a time frame of ten years, with a review every two years and is divided into immediate, medium and long term plans. It also identifies common and bilateral projects in the individual sectors.<sup>16</sup>

The ECSPA initiatives include:

- Thailand will unilaterally abolish tariffs and quotas on 8 agricultural products (soybean, sweet corn, castor bean, peanut, cashew nut, eucalyptus, maize and potato) originating from Myanmar, Cambodia and Lao PDR;
- There will be an ECS business council set up to provide feedback for policy makers and facilitate business and capacity building for exporters;
- Customs cooperation to facilitate the cross border flow of goods by cutting red tape and simplifying procedures and forms;
- Joint trade fairs will be organized to help the business sector from ECS partners to consider investment opportunities in the region and to address structural challenges facing cross border trade and investment;
- Joint training for exporters to provide opportunities for ECS businessmen to gain knowledge and experience and to network and acquire business connections from the training groups;
- Contract farming to enable Thai investors to contract (outsource) agricultural producers in neighboring countries with guaranteed market support. Thailand has agreed to assist ECS partners in developing border areas for contract farming. The Thai Government has announced that Thailand cannot meet its demand of its growing food industry and will be able to absorb the majority, if not the entire production of agricultural goods produced under contract;
- Thailand has announced that it would be pleased to provide technical cooperation on agriculture, including the improvement of crop cultivation, livestock, fisheries, food safety and standards and irrigation;

Coffee is Lao PDR's major agricultural export product. In 2002, close to 20,000 tons of raw and processed coffee, valued at US\$ 9 million, were exported from the Lao PDR.

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<sup>16</sup> Working Group Meetings in Siem Reap, 27 August 2003 and Meeting in Thailand, 30 September to 1 October 2003.

Coffee production, processing and exporting are managed by the Coffee Producers' Association which is embedded within the Lao National Chamber of Commerce (LNCCI). The LNCCI also includes a recently established Lao Agro-Processing Association.

The principal exports from Lao PDR are summarized in Table 1.

**TABLE 1: COMMODITY EXPORTS FROM LAO PDR**

| <b>Commodity</b> | <b>Unit</b>        | <b>2002</b> | <b>2003*</b> |
|------------------|--------------------|-------------|--------------|
| Electric power   | Kwh (000,000)      | 2,798       | 2,316        |
| Timber           | Th. M <sup>3</sup> | 17          | 19           |
| Lumber           | Th. M <sup>3</sup> | 293         | 76           |
| Plywood          | Th. sheets         | 693         | 945          |
| Coffee           | Tons               | 18,966      | 11,055       |
| Gypsum           | Th. tons           | 110         | 77           |
| Tin              | Tons               | 603         | 322          |

Source: Statistical Yearbook 2003, Customs Department, Ministry of Finance and Ministry of Industry and Handicraft

\* Data for first 6 months.

The principal agricultural imports and exports of the Lao PDR are summarized in Table 2.

**TABLE 2: MAJOR AGRICULTURAL IMPORTS AND EXPORTS<sup>17</sup>**

| <b>Commodity</b>  | <b>Imports (US\$ '000)</b> |              | <b>Exports (US\$ 000's)</b> |              |
|---|----------------------------|--------------|-----------------------------|--------------|
|   | <b>2002</b>                | <b>2003*</b> | <b>2002</b>                 | <b>2003*</b> |
| Live animals and animal products  | 4,702                      | 3,023        | 1,653                       | 340          |
| Vegetable Products  | 11,832                     | 6,494        | 16,745                      | 10,842       |
| Animal and vegetable tallow, oils and fats, prepared edible fats, animal or vegetable waxes, etc.     | 885                        | 619          |                             |              |
| Prepared food stuffs, beverages, spirits, vinegar, tobacco and manufactured tobacco substitutes, etc. | 19,580                     | 11,311       | 370                         | 105          |

## **2.1 Patterns of Agricultural Commodity Trade**

### **2.1.1 Rice surplus and deficit**

Laos has made significant progress in rice production to the extent that the country is presently largely self-sufficient in its main staple. This situation, however, varies from year to year according to variable weather conditions of drought and flooding. This does not suggest that rice imports have ceased. Significant quantities of commercial grade Thai rice are imported for the Vientiane market. Concurrently, there are also exports of Lao glutinous rice to Vietnam, China and Thailand.

<sup>17</sup> Source: Statistical Yearbook 2003, Customs Department, Ministry of Finance and Ministry of Industry and Handicraft

\* Data for first 6 months.

Within national boundaries, there is a significant rice surplus in the major plains of Champasack, Savannakhet and Khammouane . Although the Vientiane plain area is a high rice producer, higher population densities create demand-pull effects on rice inflows from the central and southern provinces.

Previously, there were rice deficits in several northern provinces, including Luang Prabang, Huaphanh, Xiengkhuang and Phon Saly. In recent years, the North has attained virtual rice self-sufficiency as far as market demand is concerned, although there are widespread household rice deficits in many outlying areas of the non-monetized sectors of the rural economy.

### 2.1.2 Domestic trade flows

Compared to its neighboring countries, the Lao PDR has a small population. This explains the relatively low level of marketing activity. The traffic density, even on the main national highway No. 13, is low at about 500 vehicles per day.

However, long distance trade of larger quantities does occur, especially of produce from the Bolavens Plateau which supplies Savannakhet, Vientiane and even some northern towns. Paddy rice from Savannakhet and Khammouane is marketed in Vientiane and there are some small exports by truck to and from Thailand.

**Table 3: The Main Domestic Crop Trade Flows**

| Commodity                | From                            | To  |
|--------------------------|---------------------------------|---|
| Paddy and milled rice    | Savannakhet and Khammouane      | Vientiane                                 |
| Dried chili              | Xieng Khouang                   | Vientiane                                 |
| Livestock                | Savannakhet and Xieng Khouang   | Vientiane                                 |
| Vegetables and fruit     | Vientiane Province              | Vientiane Municipality                    |
| Pineapple, orange        | Luang Prabang                   | Vientiane                                 |
| Cabbage, potato, chayote | Bolevens Plateau (Champasack)   | Savannakhet, Khammouane, Vientiane        |
| Banana                   | Saravane                        | Pakse, Savannakhet, Khammouane, Vientiane |
| Coffee                   | Bolavens Plateau (Champasack)   | Vientiane                                 |
| Pineapple                | Bolavens foothills (Champasack) | Savannkhet, khammouane, vientiane         |
| Durian                   | Bolavens foothills (Champasack) | Pakse, Savannakhet                        |

### 2.1.3 Export, import and border trade

The main exports of Lao PDR are products of the textile industry and electricity (hydropower) and from the agricultural sector, coffee, jobs tear, cabbage and eucalyptus. For other commodities,, officially registered exports are rather small.. Official exports are normally subject to both export and import taxes and very time-consuming paperwork.

Unofficial border trade operates between the Lao PDR, Thailand, Vietnam and China. The main border trade crops are maize, soybean, peanut, cotton, sesame, red bean, cabbage, bananas, tamarind, cardamom, ginger and water melon. Mulberry bark and other forest products are also going out in significant quantities. First grade glutinous rice is in demand in Vietnam.

Transit trade is also very important, for example, garlic, apples and pears are traded through Laos to Thailand and tropical fruits such as rambutan and dried longan, as well as rubber, move in the opposite direction. Garlic and semi-processed cotton are traded from Vietnam through Laos to Thailand.

Observation of trade flows and marketing practices reveal a complex pattern of trade, dictated by supply/demand and transport cost. This applies to domestic, as well as border and transit trade. For example:

- Although Thailand and Vietnam have enormous overall rice surpluses for export, there remains demand for Lao glutinous rice in hilly areas bordering on the Lao PDR; export of first grade glutinous rice to Vietnam has been quite substantial until recently discouraged by the Vietnamese government;
- High quality non-glutinous rice from Thailand is imported, while cheaper Lao rice is exported for the low end of the Thai consumer market in the Northeast (Isarn);
- In the northern Lao PDR, some Chinese hybrid rice comes in, while glutinous rice is exported in small quantities;
- There is increasing contract farm production of Japanese rice varieties for export to Japan from peri-urban farms in the Vientiane Municipality;
- From Sing District in Luang Namtha, locally produced garlic is exported to China through the Pang Thong border post and some of this produce re-enters Laos via Boten for transit to Thailand;
- A wide variety of onions can be seen in Vientiane markets, both local production and imports from Vietnam and Thailand (different sizes shapes and colors, all with their own special uses and advantages and prices);
- Tamarind goes out by border trade from Kenthao District in Xayabury Province to Thailand, is re-imported into Laos, arrives in the main markets of Vientiane and is partly re-distributed again to smaller markets to the south and north of Vientiane. This is explained by cheaper transport over better roads in Thailand.

Other exports and imports (official and/or border trade) include:

- Coffee, cabbage, banana, cardamom and ginger from the Bolavens to Thailand;
- Garlic and (large) onion are imported from Vietnam;
- Exports of Lao coffee to China (Yunan): from the Bolavens via Boten;
- Between Sing District and China: outgoing commodities are water melon, sugarcane, some small size garlic, small onions,. In-coming commodities include apple, pear, mandarin and large size garlic;
- From Xayabury to Thailand: maize, soybean, peanut, cotton, sesame, tamarind, red bean, mulberry bark, and bamboo shoots. Mandarin comes in from Thailand.

### **3. AGRO-INDUSTRIAL/AGRO –FOOD SMES IN THE LAO PDR**

#### **3.1 Definition of Agribusiness and Comparative Value Addition**

Agribusiness includes all activities that take place in the production, manufacturing, distribution, wholesale and retail sales of an agricultural commodity. Given the diversity of commodities and marketing/processing channels in the regional agribusiness sector, there is a need to carefully assess the sector and identify areas with the highest potential for economically and financially viable. There are currently only a limited number of very small (employing 3 to 5 persons) agroprocessing enterprises. Less than 0.1 % of Lao PDR's horticultural production is processed in contrast to 30% in Thailand, 78% in Philippines, and 83% in Malaysia. The value addition in the food sector ranges from 5 to 12 per cent and is constrained by long value chain with a significant number of intermediaries that precludes full realization of scale efficiencies.

The private sector in Lao PDR is very small and in an initial stage of development. In addition the Lao PDR is viewed as a very risk place to invest. The majority of the limited

number of investors in the country tend to invest in projects with short-term capital recovery (such as hotels and tourist infrastructure, timber extraction and tropical hardwood processing and textiles). The expected capital recovery for such investments is 18-24 months. Under normal conditions, agribusiness requires from 5 to 10 years for full capital recovery. In the risky investment climate found in Lao PDR, the risks are compounded by the long-term pay back period agribusiness investments within a capricious regulatory environment, volatile markets, limited domestic market size, arbitrary border clearance regimes and highly competitive economies of scale found in neighboring countries.

In spite of these somewhat pessimistic observations, agribusiness has become an emerging feature of the Lao PDR flatlands , especially near Vientiane Municipality. Altogether, there are 582 registered industrial establishments in Lao PDR.<sup>18</sup> The large majority of Lao PDR agribusinesses are small cottage industries employing 3 to 5 persons. These fall into the following general categories:

- Slaughtering: 61 enterprises
- Noodle manufacture: 102 enterprises
- Saw mills and wood industries: 41 enterprises
- Rice mills: 78 enterprises
- Canning and preserving: 7 enterprises
- Soy Sauce: 3 enterprises
- Oil seed processing: 2 enterprises
- Milk products (milk, ice cream and yogurt): 7 enterprises
- Coffee roasting and packaging: 55 enterprises
- Bakery: 17 enterprises
- Textiles: 138 enterprises.

### **3.2 Inventory of Main Agribusinesses in Lao PDR**

In addition to the above, there are some 20-25 small-to-medium scale agribusinesses (employing 20 to over 300 persons) in the Vientiane area engaged in bulk commodity export, dairying and milk product processing, agricultural machinery, plantation production and wood processing, canning and value-added processing for export. These businesses that the Consultant surveyed include among others<sup>19</sup>:

- Lao Agro Industry Co., Ltd, Vientiane Province (Mr. Boonchai Punyalardchai. Mr. Visay Saliphone 023- 241048);
- Lao-Swedish Joint Venture for Agriculture and Forestry Development, Vientiane Municipality (Mr. Peter Fogde, 020- 550517);
- Gold Coin Feed Mill, Vientiane Municipality (Mr. Phoukhong Niraxay ,021 219692)
- CHAMPA Lao Agriculture Company, Vientiane Municipality (Mr. Sisouphan ,020 5511298);
- Nabong Dairy Farm, Vientiane Municipality (Mr. Khamtanh Sisamouth ,020-2211963);
- Oudai Chicken Farm, Vientiane Municipality (Mr. Oudai ,020 5514406);
- Phanchaleun Chicken Farm, Vientiane Municipality (Mr. Khamva, 020-550 8376);
- Saengsavan Fish Farm (Mr. Bounsien Prisagnane ,021 414705);

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<sup>18</sup> DANIDA National Capacity Building Project- MIH Component. *Registered Industries in Lao PDR*, January 2000.

<sup>19</sup> Lao Consulting Group/MPDF. LAO PEOPLE'S DEMOCRATIC REPUBLIC SME AGRIBUSINESS STUDY FOR THE VIENTIANE PLAIN . September 2004.

- Lao Farmer Products, Vientiane Municipality (Dr. Sisaliao Svengsuksa, 020 5509754);
- Paksap Sugar Mill, Vntiane Municipality, (Mr. Phanmaha, 020-5518053)
- ABC Bakery, Vientiane Municipality (Mrs. Manida Sangkhathoup, 021 561675);
- Don Dou Slaughterhouse, Vientiane Municipality (Mr. Bounpheng Keovilay. Mr. Viengkeo Khathoumphon, 20-520062)
- Nong Duong Slaughterhouse, Vientiane Municipality (Mr. Ki, 020-5522775);
- Kaoliou Rice Mill, Vientiane Municipality (Mr. Bounsong Limsakoun, 021-218589)
- Viengxay Rice Mill, Vientiane Municipality (Ms. Viengxay, 021 217378)
- Lao Arrowny Corporation, Vientiane Municipality (Mr. Khamsawang Mingboupha, 021 242675)
- Sinouk Sina Lao Coffee, Vientiane Municipality (Mr. Sisanouk Sisombath, 20-530495);
- Vanid Pig Farm, Vientiane Municipality (Mr. Alain Phosanalak, 021-215392)
- Thangon Agriculture Service Center; Vientiane Municipality (Mr. Nath, 021-214984)
- Nikon Handicraft, Vientiane Municipality, (Ms. Rajanikone Nanong, 021 212191)

Other significant agricultural commodity traders and value adders operating in Lao PDR include:

| Directory of Buyers of Agricultural Products  |                           |                                    |                 |                |  |
|---|---------------------------|------------------------------------|-----------------|----------------|--|
| Company                                       | Name of Contact           | Postal Address                     | Province        | Telephone No.  | Products Purchased                                     |
| State Rural Dev. Enterprise                   | Mr Sisawat Phoutavong     | Ban Son Khon Mai, Paksan District  | Bolikhambay     | 020-5552 256   | corn, soybean meal, soybeans?                          |
| Agric. Group Circle Prod. Farm                | Mr Bounyong               |                                    | Bolikhambay     | 020-2200 317   | corn, bran   |
| Trader  | Mr Bounla Sanyasam        | Paksan                             | Bolikhambay     | 054-212 032    | corn   |
| Bolikhambay Prov. State Comm. Enterpr.        | Mr Khamxay Phomvilay      | Paksan                             | Bolikhambay     | 054-212 663    | peanut, sesame, job's tears, roselle, soybeans, broo   |
| Sai Nam Kan Company                           | Mr Bounphet               | Ban Visoun, Visounnarath Road      | Luang Prabang   |                | 0 Jobs tears, sesame, corn, soybean, peanut, por sa, t |
| Bounheung Pattana Kan Kaset Imp-Exp           | Mr Houmphanh Malaydeth    | Ban Nasamphanh                     | Luang Prabang   | 071-253 088    | NTPF   |
| Borisat Pattana Peut Pon Kan Kaset            | Mr Khamphout Soukphayboun | Ban Ho Xiang                       | Luang Prabang   | 071-252 942    | Sesame (incl. Black), Jobs tears, por sa, NTPF         |
| Slaughterhouse                                | Mr Tongla                 |                                    | Luang Prabang   | 071-252 056    | cattle, buffalo, pigs                                  |
| Rice mill                                     | Mr Chanty                 |                                    | Luang Prabang   | 071-212 224    | rice   |
| Pig breeding farm                             | Mr Lovernam               |                                    | Luang Prabang   | 071-212 878    | corn, bran   |
| Chicken farm (layers for eggs)                | Mr Bounsou                |                                    | Luang Prabang   | 071-212 321    | corn, bran   |
| Chicken farm (layers for eggs)                | Mr Lotin                  |                                    | Luang Prabang   | 020-5670092    | corn, bran   |
| Borisat Pon Chalern                           | Mr Sai Amphone            |                                    | Luang Prabang   |                |  |
| Borisat Pattana Kasikorn Po Mai               | Mr Somsak                 |                                    | Luang Prabang   |                |  |
| Savan Advance Agriculture Co Ltd              | Mr Chaiyoot Viriyayootama |                                    | Savannakhet     | 020-5540 226   | peanuts, soybean, jobs tears                           |
| Slaughterhouse                                | Mr Kipheng                |                                    | Savannakhet     | 020-5540 870   | cattle, buffalo, pigs                                  |
| Government pig farm                           | Mr Khampeng Pan           |                                    | Savannakhet     | 020-5540 921   | corn, bran, rice, soybean meal                         |
| Xay Pattana Kan Kaset                         | Mr Souma Lamthong         |                                    | Savannakhet     | 020-5629 854   | corn, soybean meal, soybeans?                          |
| Pig farm                                      | Mrs Bokham                |                                    | Savannakhet     | 041-311 022    | broken rice, bran, stylo?, corn?, soybean meal?        |
| Pig farm                                      | Mr Singsavan              |                                    | Savannakhet     | 041-214 890    | corn, soybean meal, bran, stylo?                       |
| Farm Tum Det Wongs                            | Mr Tum Det Wongs          | Ban Na Seng                        | Savannakhet     |                | corn, soybean meal, bai katin                          |
| Pig farm and trading company, etc             | Mrs Khonlahouan           | Ban Paksong, Songkhon District     | Savannakhet     | 020-5541 060   | soybean, rice  |
| Trader  | Mr Soubin Vilawan         |                                    | Savannakhet     | 041-530 154    | corn   |
| Slaughterhouse                                | Mr Kipheng                |                                    | Savannakhet     | 020-5540 870   | pigs, cows, buffalo                                    |
| Dong Kalao Rice Mill                          | Mr Khampheng              | Ban Nong Beuk, Sikotabong District | Vientiane Cap.  | 020-5513692    | paddy (CR203, fragrant and sticky)                     |
| Thangone Rice Mill                            |                           |                                    | Vientiane Cap.  | 020-5511 883   | paddy CR203 for Beer Lao                               |
| Lao Cotton State Enterprise                   | Mr Wat Vilaysak           |                                    | Vientiane Cap.  |                | seed cotton  |
| Wangthap Company                              | Mr Viengmaha Manisy       | Ban Sisavath Neua, Chantabouly Dis | Vientiane Cap.  | 020-5513 102   | sugar cane   |
| Gold Coin                                     | Mr Soubanh                |                                    | Vientiane Cap.  | 020-5516 986   | corn, soybean  |
| MEMESCO Imp-Exp                               | Mr Bounsoung Vongsaga     | 031/1 Khounboulom Road             | Vientiane Cap.  | 021-215 042    | soybean  |
| Vanieth Company Limited                       | Mr Vanieth Phonsanarack   | 100 Anou Road                      | Vientiane Cap.  | 021-215 392    | soybean  |
| Lao Farmer Products                           | Mr Sisaliao Svengsuksa    | 271 Nongbone Road                  | Vientiane Cap.  | 020-5509 754   | black rice, fragrant rice                              |
| Lao Brewery Company                           | Mr Winthong               |                                    | Vientiane Cap.  | 021-812 045    | CR203 rice   |
| Lao Arrowny Company                           | Mr. Khamsawang Mingboup   | Naxaythong District                | Vientiane Cap.  | 020-5511 487   | Japanese rice  |
| Thonglahasinh Co Ltd                          |                           |                                    | Savannakhet     | 041-212 399    | indigo ("kham"), cotton                                |
| State Foodstuffs Ent. of Vientiane Municipali | Mr Sengpaseuth Pannasith  | 032/4 Samesenthai Road             | Vientiane Cap.  | 021-215 808    | CR203 paddy  |
| Borisat Sai Fa                                | Mr Virachit Philaphandeth | 97 Thong Khan Kham Road            | Vientiane Cap.  | 021-216 823    | Jobs tear, sesame (buy in Luang Prabang)               |
| Government chicken farm                       | Mr Khamla                 |                                    | Vientiane Cap.  | 020-5518486    | corn   |
| Association of VTC egg producers              | Mr Phouday                |                                    | Vientiane Cap.  | 020-5514 460   | knows egg farms in VTC                                 |
| ATT Agro Import-Export Co Ltd                 | Mr Houmpheng Sayavong     | Hadxayfong District                | Vientiane Cap.  | 020-5699 276   | soybean  |
| Lao World Co Ltd                              | Mr Visanh                 | Saysettha District                 | Vientiane Cap.  | 020-9901 037   | baby corn for canning                                  |
| Lao Agro Industry                             | Mr Chanin Awakulpanich    | Ban Kern, Thourakhom               | Vientiane P     | 023-241 048    | baby corn for canning                                  |
| State Foodstuffs Vientiane Ent. Exp-Imp       | Mr Paul Sisouphanthavong  | Viengkham District                 | Vientiane P     | 023-431 085    | paddy, corn  |
| Vientiane Haijiao Coop. Center                | Mrs Thonglor              | Phonehong District                 | Vientiane P     | 023-211 025    | corn, soybeans   |
| Rice mill                                     | Mr Khamphat               | Ban Nong Ngua, Muang Pieng         | Xayaboury       |                | paddy  |
| Exporter                                      | Mr Say                    |                                    | Xayaboury       | 074-211 142    | black bean, soy bean, mungbean, sesame, jobs tear      |
| Exporter                                      | Mr Houang                 | Kenthao                            | Xayaboury       | +66 1 708 4935 | soybean,mungbean, corn, jobs tears, sesame, peant      |
| Exporter                                      | Mr. Loun Keomany          | Ban Chompheth, Kenthao             | Xayaboury       | +66 1 260 6218 | corn, soybean, jobs tears, sesame, mungbean, red b     |
| Ruamchay Imp-Exp Co Ltd                       | Mr Phone Dethvankham      | Ban Ximoung                        | Xayaboury       | 074-211 058    | corn, peanut, soybean, sesame, cotton, mungbean, t     |
| Vegetable trader                              | "Mere Ta"                 | Pakse                              | Champasak       | 031-213 395    | cabbage, ginger, etc                                   |
| Boulisat Phonchaloern                         |                           |                                    | Luang Prabang   |                | hybrid corn exported to China                          |
| Boulisat Phonchaloern                         |                           |                                    | Luang Prabang   |                | castor seed exported to Thailand                       |
| Mr. Bounmee                                   |                           |                                    | Sarakham        | 020-9803551    | sesame seed  |
| Wilaikul Group International                  | Wiengchai Wilaikul        |                                    | Bangkok/VTE     | 020-552-8838   | soybean  |
| Peanut processor (in Thailand)                | Khun Lee                  |                                    | Ubon Ratchatani | 01-977 8271    | peanut   |
| Fruit/vegetable trader (in Thailand)          | Khun Gowit                |                                    | Chantaburi      | 01-526 1684    | pumpkin  |
| Livestock trader (in Thailand)                | Khun Vichian Khaokhan     |                                    | Udon Thani      | 01-5444 671    | buffalo, cattle  |
| Mitr Phol Group (Thailand)                    |                           | Mukhdahan                          | Mukhdahan       |                | sugar cane   |
| Siam Castor Oil Company                       |                           | Bangkok                            | Bangkok         |                | castor seed  |

There has been a significant increase in the number of Lao agribusinesses since 2002.<sup>20</sup> The increase agricultural commodity traders and value adding processors in Lao PDR arises from improvements in the business environment, regional trading initiatives launched by the AFTA-sponsored Economic Cooperation Strategy Plan of Action (ACMECS) and the emerging priority of the Lao Government to encourage agricultural commercialization. Although there have been positive trends in agribusiness development in the Lao PDR, some constraints inhibit the pace of development. These are described in the following section.

### 3.3 Present Agribusiness Sector Constraints and Lessons Learned

The present operations of Lao PDR agribusinesses, on average, tend to be constrained by:

- shortage of capital of both investment and working capital ;
- shortage of technical skills;
- insufficient raw material supply;

<sup>20</sup> Experience Inc. Small Holder Development Project Final Report. 24 June 2002

- heavy dependence on imported processing raw materials and managerial expertise;
- lack of production, trade, management and market experience;
- limited understanding of existing markets;
- low local demand for diversified food commodities;
- absence of local processing facilities capable of absorbing large quantities of produce;
- low level of production and management technology;
- limited number of agricultural commodity traders;
- weak commercial networks throughout the country
- risk imposed by the uncertain legal environment, and;
- difficulties with contract enforcement.

**Annex 1** provides a **case studies** of 20 agribusinesses operating on the Vientiane plain. The main **lessons learned** from these case studies relate to problems with supply chain management and marketing. These are summarized in the following sub-sections.

### 3.3.1 Need for Sound Business Planning

None of the agribusinesses surveyed, with the possible exception of the Lao Agro Industry Company (Case 6) and Sinouk Sina (Case 16) appear to have comprehensive business plans. Because of the high risks of agribusiness operations in Lao PDR, sound business planning is imperative. Detailed business plans should minimally address the points outlined the guideline for business plan preparation provided in **Annex 2**.

All agribusiness surveyed could benefit substantially from an Project-sponsored training program in basic business planning principles and content. The suggested syllabus and subject matter are shown in Annex 2.

### 3.3.2 Critical Need for Raw Material Supply Chain Management

The thinness of the Lao PDR non-rice agricultural commodity production and marketing requires exceptional care in managing raw material supplies for value adding industries. Raw material supply chain management is becoming more critical in the face of increasing competition from regional outsourcing. The case studies have clearly demonstrated that businesses with poor raw material supply chain management run encounter acute financial distress (Case 10- Burapha Furniture Factory is a prime example of poor raw material supply management). Raw material supply chain management in Lao PDR is particularly susceptible to raw material supply management problems because:

- Lao farmers are not accustomed to producing for markets and because most contract farming agreements are virtually unenforceable in the present legal environment;
- The majority of contract farming agreements tend to fail because either farmers or buyers fail to honor their agreements. The cornerstones of successful contract farming include: (i) agreement by the buyer to procure from the producer a certain quantity of commodity(ies) at a set price at a set time; (ii) agreement by the producer to produce the contracted quantity(ies) according to quality standards established by the buyer; (iii) agreement of the buyer to supply the producer with production technology and input credit in kind; and (iv) agreement by the producer to reimburse the buyer for the cost of the input credit facilities; this reimbursement occurs at the time of harvest and sale to the buyer. Farmers sometimes accept planting material

or inputs and then sell the product to other merchants, often at only marginally higher prices (this occurred with Case 6-Lao Agro Industry Company in its early period when it tried to contract with farmers for mango production. This is a practice known as “leapfrogging”. It can destroy the prospects for contract farming. When buyers do not honor their agreements to purchase a given quantity at a specified price, farmers often get caught with unsold and perishable product as happened with Case 3- Gold Coin Feed Mill in the early days of its operation.

- Failure to anticipate raw material supply needs and supply sources is a major cause of business financial cash flow and marketing liquidity problems. Cases 10-Burapha Furniture Factory and 13-Paksap Sugar Mill are particularly vulnerable to raw material supply shortages because of inadequate assessments of raw material supplies, and prices to meet their production schedules.
- High Lao PDR transport costs appear to necessitate that raw material supplies be sourced within a radius of 50 km from the processing plants.

The most successful raw material supply chain management operations were found in Cases 6-Lao Agro Industry Company, 7-Lao Arrowny Corporation and 8-Lao Farmer Products.

The success of raw material supply chain management is in the ability of company to take a pro-active, rather than a laissez-faire approach to raw material acquisition. The secret appears to lie in the buyer's access to world class technology and in establishing managerial control over growers of produce with high producer returns. Case 6-Lao- Agro Industry- with its program for baby corn and mango production is a good working example of this practice. The company selects the farmers to produce on its land, the company supplies proven technology and inputs and sets a minimal floor on yields. Any grower falling below the floor gets thrown out and replaced. The growers of baby corn can earn, by following the package and the rules, a net margin over cost of \$300-450 per hectare- 3 to 4 times he can earn from growing rice. With incentives and discipline imposed by the value adder, Lao farmers can and do produce for markets.

Case 7 – Lao Arrowny, follows pretty much the same practice. The Company selects the farmers and requires them to be members of its association of growers. The company uses a Japanese extension agent who shows the selected growers how to grow Japanese rice. The Company also sets production and yield floors per unit of land area and replaces farmers who do not perform according to established standards. Participating farmers are rewarded with a 50% margin over costs, compared with 15% for locally produced Lao rice.

Case8- Lao Farmer Products- uses French technicians to show farmers how to grow the required produce, prices offered are competitive and production and yield floors are set for its registered membership of farmers. Farmer profit margins received from sales to the Company exceed what they can earn from the local marketing chain. The Jihai Foundation (not included in the survey) follows similar practices in direct marketing of Lao Arabica Typica to San Francisco Bay Area. The foundation supplies extension directly to farmers, ensures quality control, and pays farmers 5 times the farm gate price offered by local traders and middlemen and by-passes local trading system which is characterized by low farm-gate prices and a chain of middlemen transaction costs. Since all agribusinesses studied have varying degrees of problems with raw material supply chain management, THE PROJECT can make a useful contribution to agribusiness development through a close study of successful raw material management operations and publish guidelines, based on case studies, for dissemination to existing and potential agribusiness investors.

### **3.3.3 Need to Improve Analysis and Knowledge of Markets**

All businesses studied could benefit from improving their market intelligence and marketing strategies. Businesses producing solely for limited domestic markets, except for those in the meat industry, where local demand exceeds supply in major centers like Vientiane, are burdened by thin markets and absence of marketing skills. Among the agribusinesses studied, Case 9- the Nabong Dairy Farm- produces high quality products, yet operates at a loss because its market is limited to foreigners in Vientiane, no attempts have been made to promote its products among the wider Lao market and there has been no study of imported inferior and higher priced competitive products from Thailand. There has also been no study of possible cross border marketing opportunities in Thailand, China and Vietnam.

Presently, Lao companies producing for EU markets enjoy favorable tariff concessions under GSP accorded for former French colonies. These concessions, while they last, offer a window of opportunity to cushion some of the risks of businesses exporting to Europe. In spite of the GSP risk cushioning effects, companies producing for international markets such as Case 10-Burapha Furniture, Case 6-Lao Agro Industries, Case 7- Lao Awwowny, Case 8- Lao Farmer Products, and Case 16-Sanouk Sina Lao Coffee all require considerable differentiated market expertise to assist them with international standards compliance and quality control, market penetration strategies, transport and marketing cost control and assistance with alleviating NTBs and promoting compliance with international trade agreements at cross border check points.

Of the five cases cited in the preceding paragraph, case 10 has encountered deep financial difficulties because of its inferior product line and very limited knowledge of international marketing standards, procedures, transport, border constraints and related problems. Cases 6, 7, 8 and 16 have enjoyed greater success in international markets because of the highly professional marketing expertise they have acquired from their off-shore joint venture partners.

### **3.3.4 Summary of Agribusiness Issues and Problems**

Given the complexities of international marketing, the Project could make a valuable contribution by preparing and disseminating marketing guidelines and organizing training programs for selected agribusinesses, which incorporate the lessons learned for the experience of more successful exporters. Assistance in obtaining general certification and organic certification for selected clients would also provide valuable and much needed assistance to the Lao agribusiness value adding sector.

The most serious constraints for agro business growth and commercial agriculture, besides agriculture not being market driven, include distorted incentive structures, and multiplicity of laws, regulations and taxes and inadequate infrastructure. The net impact of these constraints affects the capacity of Lao PDR to (i) provide optimal backward and forward linkages; (ii) market agri products both within Lao PDR and abroad; (iii) sustain quality output and minimize post harvest losses at each stage of the value chain; (iv) add value through processing, grading, quality control; (v) enable quality branding and packaging; (vi) institute a cold-chain; and (vi) transport farm produce on a fast track. Cold chain facilities are non existent to meet the increasing production of various perishable products like milk, fruits, vegetables, poultry, fisheries etc. Inadequate storage, transportation, cold chain facilities and other infrastructural supports cause approximately 30% post harvest losses, valued at over KIP 70,000 million per annum. Another critical constraint is the prevalence of control regimes with respect to functioning of agricultural markets. These control mechanisms have led to inefficiencies and monopoly rents vis-à-

vis operations of agricultural markets, which restricts Lao PDR's potential to cash-in on the global trade opportunities arising from liberalization of world trade in agriculture. A third constraint is poor quality resulting from lack of well established testing, quality control facilities for raw material and processed products; low hygiene standards; lack of controlled manufacturing facilities; and lack of internationally accepted standards for food production. Yet another constraint is inadequate outreach of services and credit to farmers.

### **3.4 Proposals of the Lao Agro-Processing Association for Addressing Agribusiness Constraints**

In working papers prepared for the Government and ASEAN/AFTA discussions, the Lao Agro-Processing Association has made specific proposals for alleviating some of the critical constraints facing the agribusiness sector in the Lao PDR. This include:

- *Improving supply chain management:* On the production side, the Association notes that assuring a steady supply of raw materials is indispensable for planning and managing agribusiness operations. They note that the present supply chain is severely restricted by farmer lack of satisfactory production technologies, floods and droughts, inadequate access to inputs and credit and lack of knowledge and access to markets. The Association believes that contract farming offers the best opportunity to improve supply chain management. There is clear recognition that the cornerstones of successful contract farming are anchored on (i) agreements by buyers to procure specified commodities from producers at agreed upon prices and set times; (ii) agreements by producers to supply the contracted quantity(ies) according to quality standards established by the buyer; (iii) agreement of the buyer to supply the producer with production technology and in kind input credit; and (iv) agreement by the producer to reimburse the buyer for the cost of inputs at the time of harvest and sale to the buyer. The Association has noted, however, that most farming contracts in the Lao PDR have had limited degrees of success because prices offered by buyers are below market, which causes producers to “leap frog” by ignoring contracts and selling for more competitive prices. In many cases, buyers fail to honor contracts for input supplies, prices and quantities to be procured at harvest, leaving producers with unsold and deteriorating surplus. The Association believes that the development of successful models of contract farming is one of the critical issues affecting supply chain management and agribusiness SME development and improvement in the Lao PDR.
- *Improving export market linkages and product quality control:* The Association recognizes the weaknesses of the Lao agribusiness sector and sees the need to engage in active promotion of foreign investments in Lao agribusinesses as a vehicle to channel world- class production and marketing expertise and capital into the sector.
- *Improving the enabling environment.* The Association proposes to hold annual agribusiness conferences with the Government to address among other issues:
  - the impacts of State commodity trading on farm-gate and consumer prices;
  - the impacts of export trading monopolies and procedural restrictions on markets and competitiveness;
  - prevailing restrictions affecting internal trade and marketing;
  - the impacts of Lao competitiveness caused by excessive regulation of the livestock sector;
  - the effects of non-tariff barriers on cross border trade;
  - the lack of border check point transparency; and
  - foreign business licensing procedures.
- *Improving business management efficiency.* The Association understands that potential agribusiness investors in Lao PDR lack business management

experience and would likely benefit from technical assistance in (i) business plan preparation; (ii) feasibility study preparation with emphasis on production, markets and profitability; (iii) marketing studies focusing on a few critical “niche” sub-sectors where the Lao PDR has competitive advantage; and (iv) help with credit applications, investment promotion and capital mobilization.

- *Enhancing Competitiveness and risk management.* The Association recognizes that investment risk and liquidity are major constraints to expanding private sector participation in agribusiness.. They propose specific remedial measures. These include:
  - mobilizing political support fro liberalizing the trading and business environment for inputs and products through regulatory, procedural and legal reform;
  - promotion of private sector involvement in all aspects of agricultural production, processing and marketing through investment guarantees, investment promotion conferences, trade fairs, study tours, workshops and other enabling mechanisms;
  - promoting agribusiness investments in areas with clear domestic and regional product demand with import substitution and export potential;
  - creating a possible investment risk protection mechanism through the commercial banking sector to promote private sector interest and helping to secure investment credit.

#### **4.0 Marketing Improvement Focus and Strategies**

There are four generic categories of **market linkages** that will be strengthened (by the demand side intervention); these include: (i) producer to domestic commodity markets; (ii) producer to domestic agroprocessors; (iii) producers to contiguous cross border produce markets in Vietnam and Thailand; and (iv) small holder producer to contiguous cross border agroprocessors in Thailand and Vietnam.

There is also a need for assistance for technical and regulatory reform to be able to exploit business opportunities; a wide range of such interventions is necessary for agribusiness and market development in Lao PDR

At a more technical level, the constraints include (i) cold chain facilities are inadequate to meet the increasing production of various perishable products like milk, fruits, vegetables, poultry, fisheries etc.; (ii) poor quality product from lack of well established testing, quality control facilities for raw material and processed products; (iii) low hygiene standards; (iv) lack of controlled manufacturing facilities, and (v) lack of internationally accepted standards for food production. Another constraint is the inadequate outreach of services and credit to farmers.

The net impact of these constraints affects the capacity of Lao PDR to (i) provide optimal backward and forward linkages; (ii) market agri-products both within Lao PDR and abroad; (iii) sustain quality output and minimize post harvest losses; (iv) add value through processing, grading, quality control; (v) enable quality branding and packaging; (vi) institute a cold-chain; and (vi) transport farm produce on a fast track.

But, agribusiness is recognized by the government as a major growth sector with agribusiness to become a major source of rural non-farm employment and income. As about three-fourths of Lao PDR's poor live in rural areas, and 80% of these are largely dependent on agriculture for their livelihoods, agribusiness and commercial agriculture can contribute significantly to poverty alleviation through multiplier effects on employment and equitable income growth throughout the economy. Thus developing, strengthening,

and reinforcing equitable and efficient farm-agribusiness linkages between all players along the food marketing chain can contribute significantly to poverty alleviation by adding value in agricultural sectors.

#### **4.1 Strategic Opportunities and Challenges for Lao Agriculture**

To stimulate growth in agriculture and raise rural incomes, there is an opportunity to *move beyond subsistence farming to more diversified, commercial agricultural production*. With two of the country's neighbors, Viet Nam and Thailand, being dominant low-cost rice producers in the international market, Lao PDR must find its competitive advantage in non-rice **niche market** development in both regional and wider international markets.

To improve rural livelihoods through increased production of higher value crops, the Government seeks to (i) strengthen its adaptive research and extension services; (ii) facilitate the development of private sector trade and agroprocessing; (iii) improve farmers' access to market information and supporting infrastructure; and (iv) increase the availability of credit for farmers, traders and processors. In essence, the Government views commodity production as being market driven, with the initiatives coming from the private sector. The Government views its role as that of a facilitator to assist and advise smallholder farmers, and to encourage their linkages with markets, traders and processors.

#### **5.0 THE PROCESS OF TRANSITION FROM SUBSISTENCE TO COMMERCIAL AGRICULTURE**

The process of agricultural commercialization (Figure 2) is a dynamic demand and supply side interaction. Increased produce supply is demand-induced by economic growth and urban consumer population and income growth.

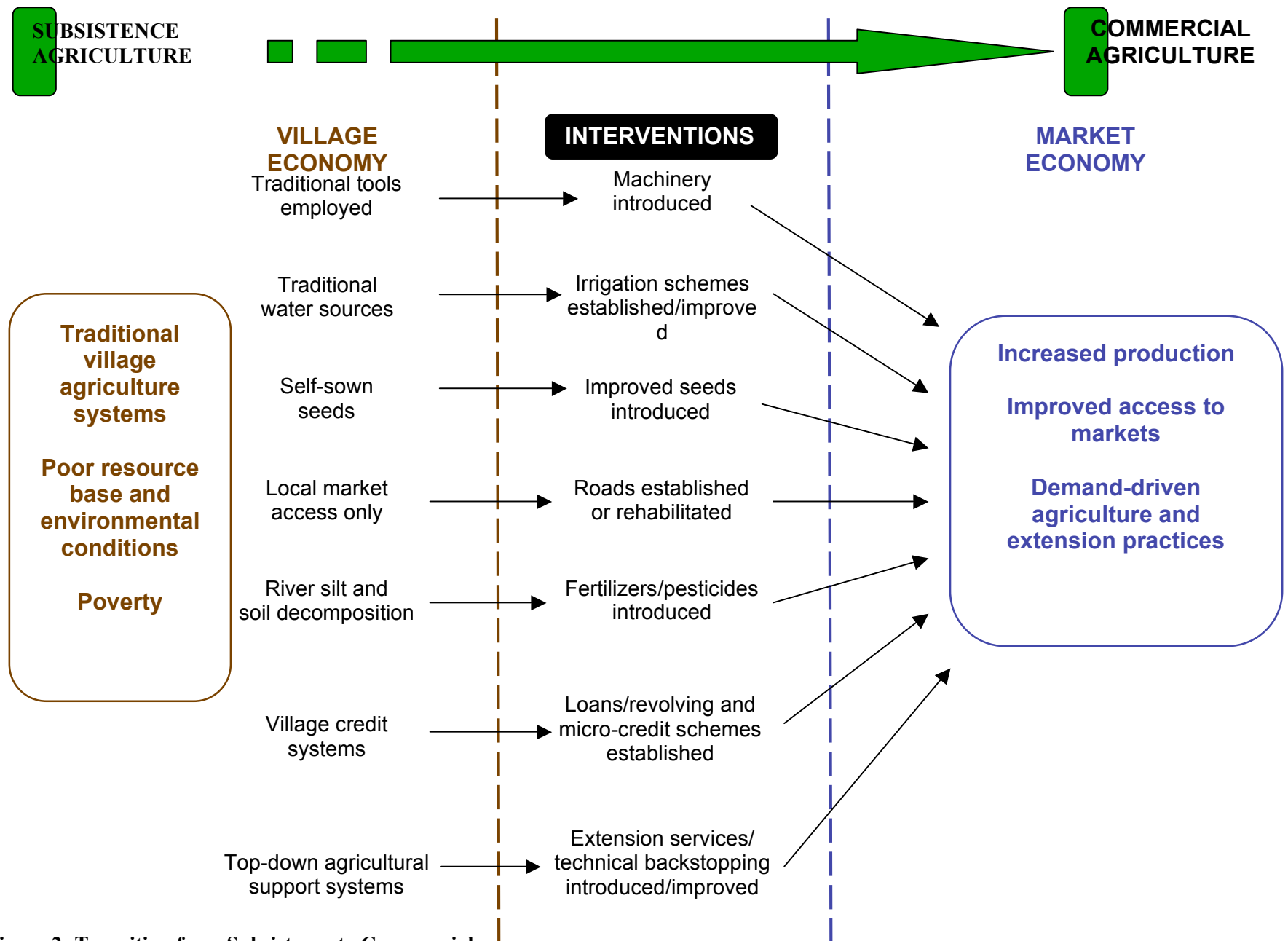


Figure 2: Transition from Subsistence to Commercial

Increased produce supply is demand-induced by economic growth and urban consumer population and income growth. Subsistence agriculture commercializes when agricultural producers respond to market signals and achieve higher productivity and production beyond household consumption needs by giving up low intensity traditional village-generated inputs and capital for market supplied credit and technically superior production factors. Agricultural commercialization requires synchronized and targeted catalytic interventions on both the agricultural demand (marketing) and supply (production) sides to initiate and sustain the momentum of dynamic transformation. The scope of the intervention strategy should be to intervene on both the supply and demand sides of agriculture in selected provinces and districts of Lao PDR to boost the commercialization of the country's agricultural sector.

## **6.0 LESSONS LEARNED FROM CONTRACT FARMING**

The Strategic Framework of the Sub- Working Group on Agriculture points out that small and poor farmers face the twin challenges of improving productivity in traditional commodities and participating in markets for nontraditional exports. Such markets include not only urban centers, but also those in other GMS countries and beyond. Small farmers need access to the right technology and skills training if they are to access such markets, particularly through participation in supply chains through contract farming, in which agreements are made between a large nucleus production unit and a number of small independent producers for the latter to deliver incremental commodity quantities, commonly to utilize a processing unit more efficiently.

Some of the barriers to contract farming and indeed to any large-scale agricultural investments in some GMS countries can be formidable. For example, in the Lao People's Democratic Republic (Lao PDR), the biggest issue facing any potential agricultural investor is the absence of any kind of legal system that would protect property rights. Second is access to finance, e.g., banks will only lend on the basis of 100%-plus collateral. Third is unfamiliarity of government staff with licensing and technical/administrative procedures, the continuing enforcement of regulations (theoretically discontinued) that hamper cross-province movement of goods, and the tendency to petty corruption. Finally, the years of under-investment in agriculture mean that there is virtually no technical and institutional infrastructure.

How can development partners help overcome these barriers, especially in a pro-poor context? There are needs for support to GMS governments in policy development, in land reform processes, and banking legislation. Good governance is required through, e.g., introduction and adoption of best practice models. Investments in institutional strengthening, both in terms of capacity building and infrastructure development are required in most of the countries.

The International Fund for Agricultural Development (IFAD) has proposed a program to introduce improved production, handling, and processing technologies for important smallholder commodities; make commodity chains more profitable for poor producers and facilitate expanded trade for these producers. The approach is to use pilot projects in combination with effective mechanisms for documenting and disseminating accumulated experiences.

The pilot contract farming projects include feed maize from Cambodia for the Thai processing market; soybean from Myanmar for the Chinese market; field fruits from small producers in Myanmar for the Chinese table market; contract vegetables from

small growers in the Lao PDR for the Thai export market; highland GAP vegetables from Dalat to Ho Chi Minh City supermarkets, Viet Nam; beef from small “out-grazers” in the Lao PDR for the Thai market; seaweed for local processing in Cambodia; and bamboo, rattan, and cane for local processing in the Lao PDR, Bokeo Province.

There are numerous other commodities suitable for contract farming. The most important and controversial at present is biofuel. One proposal in the GMS seeks to farm oil palm and jatropha (a nut-bearing tree) on nearly one million hectares in Cambodia, Lao PDR, and Thailand, for biodiesel production. While biofuels promise a renewable-resource- rather than a fossil-fuel-based energy source, there are concerns on biodiversity, deforestation, and effects on food prices. This is an area where there is a great and urgent need for the GMS to develop and implement appropriate policies and strategies on a cooperative basis.

Contract farming is where traders or processing facilities (e.g. feed mills, coffee buyers, etc.) provide inputs and technical advice to farmers and agree to buy back the product. It is a method often used by agribusiness in Thailand with varying success. There are examples of this approach in Lao PDR. However, while the model is often seen as offering a complete extension package and securing a market for farmers, experience of contract farming in Lao PDR has not been an unqualified success.

The cornerstones of successful contract farming include: (i) agreement by the buyer to procure from the producer a certain quantity of commodity(ies) at a set price at a set time; (ii) agreement by the producer to produce the contracted quantity(ies) according to quality standards established by the buyer; (iii) agreement of the buyer to supply the producer with production technology and input credit in kind; and (iv) agreement by the producer to reimburse the buyer for the cost of the input credit facilities; this reimbursement occurs at the time of harvest and sale to the buyer. Farmers sometimes accept planting material or inputs and then sell the product to other merchants, often at only marginally higher prices. This is a practice known as “leapfrogging”. It can destroy the prospects for contract farming.

Four ***contract farming operations*** are provided with the following lessons:

*National Food Products International* operates a feed mill and poultry complex in Bokeo. The Company has successfully enlisted the support of shifting cultivators to grow 150 ha of soybeans for the feed mill and all conditions of contract were honored and fulfilled; this is an example of a fully successful contract farming operation;

*Lao Agro Industry Company* in Thoualkhom, Vientiane Province produces canned produce for sale to the EU, Poland and Viet Nam. The Company has only partially succeeded because the prices offered to the producer are below prevailing market prices. Consequently, the contracted producers by pass the buyer for higher price advantages in competitive commodity markets;

*Gold Coin Feed Company* in Vientiane Municipality contracts with farmers to produce maize for the mill. This contract has failed because the buyer does not honor the contract to produce the agreed quantity and farmers have been left with unsold surpluses;

The SAA Co. in Savannakhet reportedly spent one million Thai baht over three years providing planting material for peanut and soybean production, with technical staff advising farmers throughout the season. SAA was unable to purchase back the expected product, and has now abandoned this initiative. Such experience is common in the region, not just in Lao PDR. Securing markets is a constant concern of farmers, so contract farming would appear to be useful to them. However, on the farmers' side in the SAA case, there were complaints that seed material supplied was often poor and that the prices offered were low. Price differences aside, the failure to resell to SAA indicates farmers did not see the agreements with SAA as binding, even though they had accepted inputs from the company.

#### Contract farming linked to farmer-producer-marketing groups (FPMGs).

The first case study is the Tobacco Farmer Producer-Marketing-Group operating in Tha Khek District, Khammouane Province. The tobacco FMPG consists of 54 households that produce tobacco on contract for the Lao Tobacco Company. The group has been operating for 2 years (2004-2005), in 2005, the group produced 57 tons of tobacco. The total revenue from the 2005 sales was 304 billion kip. The group farmers learned the tobacco growing technology from the SHD study tour to Nong Bok at the beginning of 2005. In early 2005, the FMPG signed contracts with LTC to market some 30 grades of tobacco. LTC provides plant material and fertilizer on credit to participating farmers. The cost of production on 1,200 m<sup>2</sup> is 3,000,000 kip and the sales revenue 4,500,000 kip/1,200m<sup>2</sup>. This translates into a net profit of 12.5 million Kip/ha (\$1,250). The farmers have learned to work effectively with LTC. Their main problem is grade recognition for which they need training with additional training in marketing and bargaining techniques. The group also needs further training in administration and financial management.

Other tobacco companies are starting to enter the demand side, so farmers with more training and experience will be in a better position to bargain to realize higher net profits than they do at the present time. This example of tobacco contract farming in Tha Khek provides solid empirical evidence of functional supply push and demand pull interaction. Altogether, the group spent 2.5 hours discussing the various aspects of tobacco production and contract farming with the tobacco FMPG.

A second farmer production group acquired its CR203 production technology from local demonstrations. The group consists of 82 households with 842 members. Since the group is also a Water User Group, its members have access to irrigated land and to development revenue from the irrigation service fees they collected from participating farmers. In 2005, the group signed an annual farming contract to produce CR203 (550 tons) and glutinous rice varieties (1,000 tons). The buying company, Thanh Yhang, provides seeds and fertilizer on credit without interest and offers a guaranteed price of 1,100 kip/kg for glutinous rice and 1,200 kip/kg for CR203. The inputs used by group members include: (1) 60 kg of seeds/ha; (2) NPK fertilizer, 90-60, at 30 kg/ha (3) animal manure, 20 tons/ha. The row spacing is 20 cm and plant spacing 15 cm. The total cost of production is 5,590,000 kip/ha; the total sales revenue is 9,000,000 kip/ha. The net profit is, therefore, 3,410,000 Kip/ha (\$341, compared with traditional rice of \$100/ha). Local area interventions with crop demonstrations and facilitating the linkages to contract farming has increased 3 – fold the farmer incomes within that FPMG. This clearly

shows the synergy achieved when technology, credit and markets are linked by contract farming. This linkage mechanism is evolving as the core strategic underpinning of the government and should be widely replicated.

The overall **lesson** from these experiences, apart from simple price/profitability considerations, is that the relationship that has been built up between farmers and the extension agency/company is the key to success. In Lao PDR, there is little structured business and almost no contract law used in the agricultural sector. Most transactions depend on established relationships of trust. These were present in the cases of small traders such as Natural Products International Co. in Bokeo, but were absent with SAA and others. *Contract farming can provide a useful way to transfer new technology to farmers, but in Lao PDR (as it did in Thailand) it will take some time before the private sector is sufficiently well-developed for this approach to become a fully reliable approach to promoting expansion of commercial agriculture.*

## *ANNEX 1*

## SUPPLY CHAIN CASE STUDIES OF 20 AGRIBUSINESSES OF THE VIENTIANE PLAIN

### 1. ABC BAKERY

ABC Bakery has been operating since 1990. It is a Thai investment with the total capital of 10 million Bath (250,000 \$US). The Bakery hires 30 workers of which 18 are women. This bakery supplies American breads, cakes, cookies and processed bananas to mini-marts and small shops in Vientiane Capital, Luang Prabang and Xieng Khouang. The Bakery orders raw materials from a food supply business in Vientiane. All raw materials are imported from Thailand. Each day the Bakery uses about 100 kilos of flour, 50 kilos of sugar, 150 eggs and 24 kilos of margarine. It produces about 200 American-style breads, 200 sweet breads, 300 banana cakes, 300 egg cakes and cookies. The factory prices of its products range from 2,500 to 6,000 Kip (0.25 to 0.60 \$US) per unit. Its monthly sales are about 6,500 \$US.

The owner has expanded her bakery and will open a coffee shop.

The owner has expanded her bakery and will open a coffee shop.

**Annual Costs:** Each month the bakery spends about 1,000 \$US for the salary of its workers, 100 \$US for electricity and water supply, 100 \$US for the transport and 4,500 \$US for raw materials and packaging. The total annual operating cost is 68,400 US\$

**Annual Sales:** 78,000 US\$

**Market:** The bakery sells its products to the markets and mini marts in Vientiane Capital, Vientiane Province, Luang Prabang and Xieng Khouang with an agreement to buy back its expired products.

**Capital:** The owner of the bakery uses her own capital to invest and expand her business. She will open a new factory in September 2004.

#### **Perception of Constraints:**

- The main competitors are the bakeries in Udon Thani and Nong Khai, Thailand.
- The management capacity is limited only to the owner her self.
- Marketing of factory's products is limited to only 4 provinces.

**Improvements Required to Boost Output, Productivity and Profitability:**  
Major factors for optimal profit margins include:

- Assistance in management of the expanded Bakery.
- Assistance in marketing for expansion into markets within other provinces where with easy access;
- Technical assistance to diversify marketable products.

## 2. CHAMPA LAO LTD

CChhaammppaa LLao LLttd wwaass eesstaabblisshheedd 11999922. TThhiiss ccoommppaanny ooppeeraateess thhee aggribbuussinneesss aass aa ffronnit buussinneesss foor iits oothheer buussinneesss iincluudding ccoonsitruuctioonn aannnd tirueckk iimppoorrit aannnd doomesstic saaleess. WWith reesspeccit too iits aggribbuussinneesss ooppeeraatioonss, thhiiss ccoommppaanny ccoontiraactss faarmmeerss too ggroow riecee aannnd mmaalizze foor innffoormmaall eexppoorrit too TThhaillaannd VVieetnaamm. Iits mmaarkkeett inn VVieetnaamm aaree niichee mmaarkkeett foor ggluutinooss aannnd fraagranit riecee. TThhe CCoommppaanny'ss riecee mmaarkkeett inn VVieetnaamm iss inncreaasing buut duee too reecenntly iimppoosedd riecee iimppoorrit reestricctioonss bby thhe VVieetnaamsee gooveernmeent, iits eexppoorrits aaree noow ssmugggileed inn too VVieetnaamm. Ffoollloowingg thhe ouutbireakk oof aavvaan fluu, thheer iss noo loongeer aa mmaarkkeett inn TThhaillaannd foor iits mmaalizze pproduuctioonn. Inn 22000033, thhe CCoommppaanny ccoontiraacteedd LLao AArroowwny LLttd too ssupplly Jaappaaneesee oorgaanic riecee foor eexppoorrit. Inn 22000033 CChhaammppaa LLao ssupplieedd 110000 toonss oof Jaappaaneesee riecee too LLao AArroowwny LLttd. TThhe ccoommppaanny hhiress 66 exsteeenstioonn woorkkeers too pproovidde teechhnicaal aassistaance too ccoontiraacteedd faarmmeerss foor iits riecee aannnd mmaalizze plaantattioonn.

The manager revealed that the company has no profit from the agro business. Lao Champa's operating loss id about 20%. of the investment in this business (sales average 400 million Kip with costs running 500 million Kip). Champa Lao needs capital to invest in a bulk drying and storage system.

**Annual Operation Costs:** Each year the company invests about 46,728 US\$ for seeds and technical assistance to farmers.

**Annual Sales:** \$37,383

**Market:** Thailand and Vietnam.

**Capital:** The registered capital of the company is unknown.

### **Perception of Constraints:**

- Strict regulations for the import of rice in Vietnam.
- No standard bulk storage system in Laos.

### **Improvements Required to Boost Output, Productivity and Profitability:**

Major factors for optimal profit margins include:

- Assistance to negotiate with the Vietnamese Government for the export of Lao rice into Vietnam;
- Capital for setting up adequate drying and bulk storage.

### **3. GOLD COIN DN (LAO) COMPANY LTD.**

TThhee GGooldd CCoolinn DDNN ((LLaao)) CCoomppaanny hhaas bbeenn aa mmeembbeerr ooff tthhee ZZueelllig GGroupp ssinne 1199977. Itt iis aa jjoointt vvenntturee bbeetweenn LLaao ((88%)) aannd SSwiss ((9922%)) innvvesttoors wwith tthhee tootall caapital ooff 88000,00000 \$US\$. TThhee ccomppaanny leaasees tthhee ffeedd mmiill faacttoory froom tthhee MMinnistry ooff Aggriulture ffor 115 yeears. TThhee annuaal leaase cconntact iis 4400,00000\$US\$. TThhee ffeedd mmiill faacttoory wwaas eestaablisheed inn 119779 aannd beegann ooppeeraating inn 1198833 wwith tthhee ttechnical assisstance pprovidedd by tthhee FFrench GGovernnment. Inn 1199922, aa LLaao innvestoor wwaas hireed to ooppeerate tthhee faacttoory aannd tthenn inn 1199977, tthhee ZZueelllig GGroupp jjoined tthhee LLaao innvestoor to help manaage faacttoory ooppeeraation. FFoolloowing eestaablisshment ooff tthhee jjoointt vvenntture, tthhee ccomppaanny haas ggiven peermanent empploymment to oover 553 woorkers, fiive ooff wwhic are womeen. TThhee womeen are primarilly engaged inn tthhee admmnistrative woork aannd laboattoory woork ooff tthhee CCoomppaanny.

TThhee faacttoory pproduces chhickenn ffeedd ((layeers aannd broilers)), piggs aannd quail. Inn 2003, 7700% ooff itt pproduces wwaas chhickenn ffeedd, 2255% aannd 55% wwaas piggs aannd quail ffeedd respecively. FFoolloowing tthhee ouutbreake ooff avian fluu, piggs ffeedd pproduction inn 2004 ammountedd to 5500% ooff tthhee tootall faacttoory ouutput.

Raw materials for the production include maize, rice bran, soybean, fish meal and vitamin supplements. In 2003, the factory procured rice bran and 85% of it maize requirement from the local farmers. Soybean, fish meal, vitamin supplements and 15% of maize were imported from Thailand. In the beginning, the factory contracted with farmers for the production of corn and provided them with seeds. Because of limited corn production on the Vientiane plain in 2000, the factory management requested assistance from the Department of Agriculture, Ministry of Agriculture and Forestry to promote maize cultivation to increase the supply of raw materials. Presently, the main suppliers of

maize are farmers from the Seandin area, Vientiane Province, Sayaboury and villages along the Nam Ngum River. The factory price of maize is 950,000 Kip ( 90 \$US) a ton. Though the maize production has been increased and the factory has 23 silos with the total capacity of 5,000 tons. However limited drying capacity of only 30 t/shift prevents full utilization of in-house storage capacity.

The annual sales volume in 2003 was 14,000 tons but due to the outbreak of avian flu, the sales from January to August 2004 amounted to only 4,000 tons. The average factory price of the feed is about 2 million Kip (184 \$US) per ton.

**Annual Operating Costs:** The overhead cost of the factory is about 100 to 150 million Kip per month. This includes lease, salary, electricity, gas and water. The annual operating cost 3,670,000 US\$.

**Annual Sales:** 3,690,000 US\$ in 2003. Expected to decline to 734,000 US\$ because of the dramatic decline in chicken feed demand arising for the avian flu epidemic.

**Market:** The factory sells its products to 6 distributors in Vientiane Municipality and 1 distributor in Luang Prabang. In addition, the factory also delivers weekly about 7.5 tons of its product directly to Ouday Chicken farm.

**Capital:** The total registered capital is 800,000 \$US.

**Perception of Constraints:**

- Storage capacity is constrained by the limited capacity of the dryer.
- Limited knowledge of farmers concerning the production of quality maize.
- Marketing of the Company's products is limited to only 2 provinces.

**Improvements Required to Boost Output, Productivity and Profitability:**

Major factors for optimal profit margins include:

- Technical assistance to farmers in maize production.
- Expansion the capacity of the dryer.
- Assistance in marketing for expansion of markets into other provinces.

#### **4. DONE DOU SLAUGHTER HOUSE.**

Done Dou Slaughtering house belongs to the Vientiane Capital State Food Enterprise. It was established in 1972. The meat production capacity of the factory is about 30 to 40 tons. Presently its actual output is only about 19 tons/day of which about 42% is beef, 26% is pork and 32% is buffalo meat. The manager of the State Enterprise mentioned that the Vientiane Municipality government may consider closing down the small private slaughtering houses (13 in number) in order to increase the capacity of Done Dou Slaughtering House and improve the quality of the service as well as control prices in local markets. The total number of employed workers is 62 of which 10 are women. The women are involved in the administrative work, while the men perform the slaughtering operations.

Middlemeenn meeatt traadeers suuppplly ppiigg, buuffaalloes aannnd caatttle too thee faacttoorry. Thee faacttoorry pproovidees onnly slaughtteerinnng seerrvicees. Thee seerrvicee chhaargees aare 1177,00000 Kipp, 1188,00000 Kipp aannnd 1199,00000 Kipp foor aa ppiigg, coow aannnd buuffaalloo reespeectiiveelly. Thee aannnuall inncoommee ooff thee buussiness iss aabboott 11166,00000 UUS\$\$.

A major supply chain constraint is the slaughterhouse's distance from Vientiane markets (10km), while the private slaughtering plants are located nearby. Most meat dealers prefer to use the private slaughterhouses because they are closer to markets and they can supply fresher meat, which consumers prefer. The Done Dou slaughter house operates only one shift per day (morning), while the private plants operate two shifts (afternoon and evening)

**Annual Operating Cost:** The operating cost of the factory is about 20 to 30 million Kip per month. This translates to 22,030 to 33,644 US\$ per year.

**Annual Sales:** 116,000 US\$

**Market:** The factory supplies about 30% of the meat consumption in Vientiane Municipality.

**Capital:** The total registered capital is unknown.

**Perception of Constraints:**

- Lack of raw material supply due to competition from small private slaughter houses.
- Lack of cold storage.

**Improvements Required to Boost Output, Productivity and Profitability:**  
Major factors for optimal profit margins include:

- Capital and technical assistance for cold storage and meat packing development.

## 5. KAOLIOU RICE MILL.

The Kaoliou Rice Mill was established in 1972. Since then the mill has never been upgraded. The milling capacity is about 11 to 12 tons per day. In 2004 the mill contracted to supply 3,000 tons of rice to the Lao military. The military offers the price of 1,350 Kip per kilo for unhusked rice.

The owner, an old man of about 70 years, has no interest in upgrading the mill.

**Overheads and Additional Costs:** The operating cost of the mill is about 15 million Kip per month.

**Market:** 75% of the Mill's customer is the Lao military.

**Capital:** The total registered capital is 250,000 \$US.

**Annual Operating and Overhead Cost:** 315,000 US\$

**Annual Sales :** 350,000 US\$

**Perception of Constraints:**

- Substandard storage system
- Old technology
- Low extraction rate of about 50-55%
- High percentage of broken rice (about 25%)

**Improvements Required to Boost Output, Productivity and Profitability:**

Major factors for optimal profit margins include:

- Improvement of mill storage;
- Improving the extraction ratio; and
- Reducing the percentage of broken rice.

## 6. LAO AGRO INDUSTRY FACTORY.

LLaao AAggrroo Innddaussttryy FFaaccttoorryy wwaass eessttaabblisshheedd inn 11999944 wwiithh thhee reeggisstterreedd ccaappiitaal ooff 770000,000000 \$S\$UUS\$. Iit liss aa jjooinntt vveenntuuree bbeettweeen thhee TThhaai aanndd LLaao innvveesitoorrss. MMaannaageemmenntt ooff thhee ffaaccttoorry'ss ssuupppplyy cchhaalinn, pprrooceesssingg aanndd mmaarkkeettngg ooppeeraatioonss liss ssuupppliedd bby thhee TThhaai jjooinntt-vveenntuuree ppaartneerr, LLaammppaangg Ffoooodds, wwhhiich hhaas bbeenn inn buussinneess sinnee 11997755. Thhee LLaao shhaaree iis 3300%. Thhis ffaaccttoorry pprrooceesssess caannneedd vveeggetaablees aanndd firuitts inn caans aannd bbottlees ffor mmaarkkeets inn EEngglaannd, BBelgiumm, GGerrmaanny, RRussssia, PPoolaannd, VVietnaam aannd TThhaailaannd. Itts mmaainn pprodducts aare pprrooceesssedd baambbooo shhooot, suugaar ppaalmm nuut ((MMarrk TTaao)), mmaanggo, gaarlicc, bbaaby coorn aannd CChhiinesee ccaabbbaagee. Thhee CCoommppaanny eempplooyss HHAACCCPP ppraaccticeess.<sup>11</sup>

The factory output is 30 tons/day in August-September and 19-20 tons/day during the low points in the annual production cycle. On average, the Company exports some 78 containers of produce per year and plans to increase this export volume to well over 80 containers during the next several years.

Lao Agro Industry permanently employs some 350 people, 75% of these are women. During seasonal peaks, the employment level reaches 500, with the temporary employment of an additional 150 people.

Bamboo shoots and palm nuts (non-timber forest products or NTFP) are locally supplied from collectors in Xiengkhouang, Luangprabang, Saysomboun Special Region, Vientiane Province and Borikhamxay. The requirement for bamboo shoots is about 1,000 tons per year. From August to September, the factory requires about 30 tons of semi-processed (polished and cooked) bamboo shoots per day. The factory price of semi-processed bamboo is 1,000 kip (0.10 \$US) per kilo. The extraction rate is 60%. The factory has no cooling system. The absence of cooling facilities requires that the bamboo shoots be processed within 3 days of delivery. Following the bamboo season, from September to March, the main product is Mark Tao. The annual demand of this product is about 300 to 500 tons, of which 60 to 70% are dry nuts. The factory-buying price of the wet Mark Tao is about 2,500 to 2,600 Kip (0.25 to 0.26 \$US) per kilo. The buying price of the dry Tao nut is about 3,200 to 3,500 Kip (0.32 to 0.35 \$US) per kilo. With absence of the cooling system, the factory can keep the dry sugar palm nuts for one month and the wet nuts for only 3 days. The dry quality nuts are exported for further processing in Thailand and the wet ones are processed in the factory for export to Vietnam and some domestic sales. The factory is planning to expand its Mark Tao market to Japan. There is one main collector/supplier of these two products in each province. The factory contracts with suppliers to deliver specified quantities of raw materials according to a fixed scheduled, based on factory throughput requirements and operations. The factory plans to expand its product lines to other non-timber forest products during its current five-year expansion plan.

1

#### Hazard Analysis and Critical Control Points

Garlic, Chinese cabbages are supplied locally by the farmers in Thoulakhom District. Mangoes are imported from Thailand each year about 200 to 400 tons. The factory pays import tax of 1%. The supply of mango from Lao farmers represents only 10 % of the demand. The Lao Agro Industry Company plans to reduce its dependency on imported mangoes by organizing local growers and extending technology with guaranteed prices and markets through contract farming agreements. The current factory price of mango is about 1,000 Kip (0.10\$US) per kilo. The farm-gate price is 600-700 Kip /kg, giving the collector/traders a 30-40% margin less transport costs from supply assembly points.

Experience with contract farming in the past was unsatisfactory because the Thai managers had assumed that Lao farmers commercial orientation which is similar to Thai farmers and would be able to effectively use factory-supplied technology packages, maintain quality control and supply agreed upon raw material quantities at agreed upon schedules. This laissez-faire approach to contract farming was unsatisfactory because growers did not follow prescribed technology packages and failed to meet delivery schedules because of supplier leap-frogging for seasonal price advantages in alternative markets, lack of organization and occasional indolence. From this experience, the Company has opted to follow a pro-active approach to raw material supply chain management whereby factory management will become directly involved in supplying raw material production technology (i.e. seeds, cultural practices, harvesting, etc.), assuring quality control in technology application by growers and setting productivity floors on outputs (e.g. yields/unit of land area).

During the past 8 years, the factory has encountered problems with the supply of baby corn because Lao farmer had no experience in commercial production of cash crops. Presently, the factory has contracted both the Thai and Lao ministries of agriculture to organize the Lao farmers in Tan Piou village for growing baby corn. The Thai inputs will consist of seeds

and training of farmers in field management. The Lao government will provide technical assistance to farmers in baby corn cultivation. This project will commence at the end of the 2004 wet season. The baby corn plantation will be 250 rai (one rai equals 1,600 m<sup>2</sup>). Farmers participating in this project will be competitively selected. There will be 4 crops/year. Farmers will be required by contract to produce a minimum of 200 kg/rai of baby corn. This is the applied research tested farm yield from applying the technology package on Vientiane Plain soils. With this output, participating farmers will be able to achieve an equivalent profit of 467 US\$/ha, if they use family labor and 292 US\$/ha if they use hired labor. This profitability factor compares very favorably with the income from traditional rice farming, where the net margin per hectare averages 100-200 US\$/ha. Participating farmers who do not achieve the minimal yield of 200 kg/rai will be removed from the project and replaced by others. The members participating in this project will include 50 to 60 households. At the beginning they will be provided with seeds and technical assistance with no interest. The input loans will be repaid after each harvest.

In 2003 the factory made profit of about 30,000 \$US on 1,000,000 US\$ in sales (3%)

<sup>2</sup> The factory would like to have GMP<sup>3</sup> certification for its products and expand its warehouse to accommodate the planned increase in output. The targeted sales volume for the next several years is 2,000,000 US\$ following its campaign to increase raw material supplies through improved supply chain management and cost control and expansion of its European markets.

<sup>2</sup>

The profit projection for next year is 80,000 US\$ with the addition of its factory controlled contract farming operations for baby corn.

<sup>3</sup>

Good Manufacturing Practice

Currently, the cost of container shipments to Bangkok is 30,000 Thai Baht. With the projected increase in sales volume to 2,000,000 US\$/year, Factory management believes that transport contracts can be negotiated at 25,000 Baht/container, resulting in a 12.5% cost reduction. At this volume of sales with cost control measures, the annual profit is expected to reach 100,000US\$ per year (5%).

At the present time, cans are imported from Thailand. By importing raw materials and manufacturing cans in Laos, unit costs can be further reduced by another 20%. Consequently, the Company plans to establish can producing factory. With factory expansion, the Company will need access to commercial financing for working capital and investment capital to expand warehouse space and procure some additional equipment.

**Annual Operating Cost:** The annual operating cost of the factory is about 970,000 \$US. The present cost of production is some 15% higher than for equivalent products in Thailand because of scalar economies. However, the Company is able to reach parity because of GNP (anything but weapons) preferential tariffs offered by the EU for good imported from former French colonies.

**Annual Sales:** 1,000,000 US\$ in 2003.

**Market:** 70% of its export is the market in England (Amoy Foods).

**Capital:** The total registered capital is 700,000 \$US.

***Perception of Constraints:***

- Inadequate supply of raw materials especially baby corn and mangoes.
- Absence of GMP certification.
- High transport cost from Vientiane to Bangkok.
- If the business were expanded, there would be a need for increased working capital.

***Improvements Required to Boost Output, Productivity and Profitability:***

Major factors for optimal profit margins include:

- Assistance in organizing farmers for commercial crop production (baby corn and mangoes)
- Assistance in obtaining GMP certificate.
- Assistance for access to working capital and
- Reducing container transport costs.

***7. LAO ARROWNY CORPORATION.***

Lao Arrowny Corporation is a joint venture between a Lao and a Japanese investor to produce the organic Japanese rice (Kosi Ikari and Japonica) for export to Japan. The Lao share is 5%. This company was established in December 2002 with the total registered capital of 430,000 \$US. The total employees of the company are 25 of which 6 are women.

The company could have access to a Japanese rice plantation area of 18,500 ha (allocated by MAF for this purpose) countrywide. Presently its plantation area covers only about 800 ha in Vientiane Municipality. The yield is about 3 tons per hectare. The company needs to organize the farmers first before it can expand its plantation area to other provinces. In 2004, the company has contracted about 2,000 farmers to grow Japanese rice. To be a member of the supply group, the candidate must own the rice field, must be dedicated to work hard in the field and must not use chemical fertilizers in rice process. However, minor additions of fertilizer, up to 30 kilo per ha are permitted.

In 2003, the company borrowed 200,000 \$US with an annual interest rate of 22 % from the Agriculture Promotion Bank for the supply of raw materials and provision of technical training and support to contracted farmers (supplied by the Japanese partner). The price of seeds is 7 \$US per kilogram. Until August 2004, farmers had cultivated 3 crops of this rice variety per year. Outputs from the first crop were used as seeds for the second crop. The harvest from the second crop was about 460 tons of paddy. The third crop of 800 ha will be harvested in September 2004. At current prices, farmers are able to realize a 50% profit margin per hectare over three rice seasons, compared with traditional rice margins of 15% per hectare.

The total order in 2004 is 10,000 tons. The company still have a long way to reach this level of demand. Presently, the company exports its produce via Siam Arrowny Ltd. The offered price is 450 \$US to 500 \$US per ton (FOB Nong Khai). If the Company could export directly to Japan the price of rice would be double. In order to be fully competitive, the company would need to raise about 15 million \$US for the establishment of a standard rice mill and drying and storage system.

**Annual Operating:** The annual operating cost of the company is about 240,000 US\$.

**Annual Sales:** 230,000 US\$

**Market:** 100% of the Company's output is exported to Japan.

**Capital:** The total registered capital is 430,000 \$US.

**Perception of Constraints:**

- Lack of awareness of Lao farmers for commercialized rice production;
- Insufficient supply to reach the order in previous years;
- In 2004, the supply rice from farmers exceeds the company's working capital for procurement from farmers and for milling and packaging;
- Lack of capital for the investment in milling and storage system;
- High transport cost from Vientiane to Bangkok.

**Improvements Required to Boost Output, Productivity and Profitability:**

Major factors for optimal profit margins include:

- Assistance in business planning and organizing farmers for commercialized rice production;
- Assistance in increasing the Company's working capital;
- Assistance for access to investment capital for the investment in a large mill and drying and storage complex.

## **8. LAO FARMER'S PRODUCTS.**

Lao Farmer Products was set up in 1994 with the total capital investment of 4,000 \$US to buy organic produce from farmers in Vangvieng district. In 1996, the Company mobilized funds of about 40,000 \$US from private individuals to expand its business. Presently, the company has about 20,000 shares of 10 \$US each. The company has also borrowed long term loan of 43,000 \$US with 10% interest rate from BCEL. The number permanent workers are 40; 70% are women. The company also hires about 60 seasonal workers during the high season from June to December.

The factory's main products are jam, fruit juice, candies, banana, processed bamboo, rice, wine, liquor and beer made of liquid from sugar palm. The factory also exports gourmet

and aromatic rice blends. The factory has the capacity to produce about 18 tons per year. The actual output is about 56 kg per day. All raw materials for the production are organic produce and are locally procured from individual farmers. Pine apples and pamelos are supplied by the farmers from Luang Prabang Province and Vangvieng district. The buying price at the factory for a 2 kilo pineapple is between 2,000 and 2,500 Kip depending on the size. The factory price of a pamelos is about 2,500 to 3,000 Kip. Passion fruit comes from Xiengkhouang Province. In the past, this fruit was only collected from the forest and now farmers grow this produce on about 75 hectares. The factory price of raw passion fruit juice is 10,000 Kip per liter. Tamarinds are procured from all provinces in Laos. Tea leaves and bananas are sourced from the Bolaven Plateau. Purple rice is procured from the northern provinces. All raw materials are semi-processed in the areas of origin before transporting to the main factory in Vientiane. The company also operates a beer factory in Champassack province. The raw material for beer is the sap from sugar palm trees. The factory has no problem with raw material supply because of its small-scale production. It produces according to the order. In 2003, the orders amounted 12 containers and in 2004 the order reached 18 containers. Each container is about 100 tons.

The Company follows HACCP standards.

All raw materials for packaging are imported from Thailand. Bottles for wine are imported from Italy. Now the company has problem with the supply of bottles for Jam and fruit juice from Thailand; thus it is beginning obtain supplies from Vietnam.

The company's main markets are France Belgium, Germany, Switzerland. The company plans to expand its market into Italy and Holland. The company receives technical support from 3 agricultural colleges in France. Every year the clients check on the supply chain and provide quality control of products. Clients always prepay 60% of their orders, thus providing the factory with working capital. The sales in 2003 were 400,000 \$US. The annual overhead costs of the factory are about 60,000 \$US. The building of the factory is leased from a private individual. The lease contract will expire in 2 years. The company plans to build its own factory at a later date.

**Annual Operating Costs:** The annual operating cost of the factory is about 60,000 \$US a year.

**Annual Sales:** 400,000 US\$

**Market:** EU countries: France Belgium, Germany, and Switzerland

**Capital:** The total registered capital is 207,400 \$US.

**Perception of Constraints:**

- High transport costs from Vientiane to Bangkok which cost about 1,300 \$US per container. The transport cost from the port in Bangkok to EU market cost only 600 \$US per container.

- No export promoting practices and regulations at the border of both Laos and Thailand.
- The company is planning to build its own factory it will need to borrow investment capital from the bank, but the company can offer no collateral for the loan.

**Factors Necessary for Highest Potential Outcome:** Major factors for optimal profit margins include:

- Assistance in reducing transport costs;
- Assistance addressing NTBs at border check points;
- Assistance in securing loan financing for factory construction and equipment loan.

## 9. NABONG DAIRY FARM.

The Nabong Dairy Farm began operations as a joint venture between Swedish (65%) and Lao partners (35%) in 1991-1992, when Burapha took out a lease on the former Cuban financed dairy farm. The value of the lease is \$17,000 per year. At the time Burapha took over the farm, there remained only 10 head of poor quality cattle and some old dilapidated buildings and equipment. With an investment of 200,000 US\$ (including a loan of 80,000 US\$) in buildings, dairy and processing equipment and 160 cattle imported from the Chokchai Farm in Nakorn Ratchasima in Thailand, the Company set up operations to produce fresh milk, yogurt and cream. The production capacity of the plant and milk cows is 1,200 liters per day. However, because the Lao are not accustomed to consuming dairy products, the plant has never produced at full capacity. Presently, the company produces 300 liters per day, but can only market 250 liters/day. The primary and only market for the dairy's output is the expatriate community residing or passing through Vientiane. Another factor constraining this already very thin market is the insistence of one of the investors to monopolize marketing of the entire output of the dairy. Presently, the outlets for marketing the dairy products from Nabong are the three Pimphone shops and 47 small shops in Vientiane, catering to the foreign community. No attempt has ever been made to promote dairy products among the wider group of potential Lao consumers or to promote exports to contiguous border areas in Thailand. The failure to market the Nabong products is seen as a gross oversight since the dairy products coming from Nabong are of significantly superior quality (richness, cream content and flavor) to equivalent Thai products selling in Vientiane for significantly higher prices. For example Thai yogurt sells for 4,000 Kip/cup in Pimphone, while Nabong yogurt with equivalent quality packaging and phyto-sanitary standards and higher product quality sells for 2,500 Kip. The price of a liter of Thai reconstituted milk sells for 2,000 Kip more (10,000 Kip/liter) than Nabong fresh milk (8,000 Kip). Nabong cream sells for 10,000 Kip/liter. There is no Thai fresh cream on the local market. Another deficiency of Nabong's marketing strategy is that they do not deliver on Sunday.

Feed supplies are imported at high cost from Thailand (Chokchai Farms) because local cattle feeds are not locally produced in the Lao PDR.

The Nabong Farm presently has 110 cattle and employs 9 men and 2 women to manage and operate the farm.

**Annual Operating Costs:** The overhead and operating cost of the factory is about 63,924 \$US per year.

**Annual Sales:** 61,680 US\$ per year.

**Market:** Fruit yogurt, whole cream milk and cream for the foreign community of Vientiane sold through the three Pimphone stores and 47 shops catering to the foreign community.

**Capital:** The total investment is about 200,000 \$US (including an 80,000\$US bank).

**Perception of Constraints:**

- Thinness of market.
- Debt service burdens;

**Improvements Required to Boost Output, Productivity and Profitability:**

Major factors for optimal profit margins include:

- Production promotion;
- Market expansion;
- Investment and technical guidance on setting up a small feed mill (500 kg/day) to process locally procured maize and soybeans in conjunction with imported feed supplements to reduce feed costs and shorten input supply chain.

## **10. BURAPHA FURNITURE FACTORY**

The Burapha Furniture Factory commenced operations in 1996-97, assisted by an IFC investment loan of \$670,000 plus additional loans from private lenders of \$630,000. The total debt burden of the Company is \$1.3 million. The factory, originally designed as a wood laminating factory, produces wooden furniture, fences and roofing tiles from Eucalyptus logs. The process suffers from low quality produce and inadequate supply chain management, among other constraints. The monthly output of produce is 9 m<sup>3</sup>/day, compared with an installed capacity of 12 m<sup>3</sup>/day for the saw mill. This capacity of the furniture station is 4m<sup>3</sup> of finished product per day, but the actual output is 2.5 m<sup>3</sup>. Raw material supply constraints plague the operation. Although, Burapha owns and leases some 250 ha of Eucalyptus plantation land, the output from this internal supply is inadequate to meet demand. The Company's Eucalyptus concession covers 250 ha, but only 150 ha are actually planted. Raw materials from Burapha's Eucalyptus plantation can meet approximately 15% of the factory's total demand. The Company must procure the remaining 85% of its raw Eucalyptus needs from small individual growers at 180,000-200,000 Kip/m<sup>2</sup>. The usual practice is to purchase standing lots from growers and then cut and transport raw logs to the factory. Intense competition from Thai collectors and traders selling Eucalyptus logs to under-utilized capacity paper mills such as Phoenix Pulp and Paper in Khon Kaen is putting upward pressure on prices. Thai collectors tend to lock in supplies with higher prices to producers which they are able to

do because of higher value addition from paper processing compared with the lower value addition of Eucalyptus furniture, fences and roofing tiles.

Symptomatic of Burapha's difficulties with raw material supply chain management is a recent order for 140,000 \$US from a hotel chain in Thailand for roofing tiles, which could not be filled, because of insufficient supply of Eucalyptus logs.

To further compound Burapha's supply chain management problems, Thailand border transactions at customs check points impose high duties (40% of FOB Nong Khai assessed value) on all exports to Thailand. These duties are applied, even though the CEPT restricts to duties to 5% and in spite of the recent ECSPA agreement wherein Thailand has agreed to waive all duties on Eucalyptus. Customs officials interpret the agreements on tariffs to apply only to raw logs and not to semi-finished goods. The duty assessed on Burapha exports of semi-finished Eucalyptus products is the same as the duty applied to completely finished furniture made of tropical hardwoods.

Another major supply chain constraint for onward exports to European markets through Thailand is the high cost of container shipments from the factory in Vientiane Municipality to the port of Klong Toey in Bangkok (30,000 Baht per container). The shipping cost for a 12 hour container journey through Thailand is identical to container shipping charges for a 3-day journey from Bhutan to New Delhi in India. Burapha's volume of traffic is too low for the Company to negotiate lower container freight rates with Thai monopolies which control container shipments in that country.

Burapha employs 120 persons, but has difficulty meeting its monthly payroll. Fortunately, employees seem to understand the Company's plight and are will to accept delayed payments because of Burapha's long history in Laos and reputation for meeting payrolls, if not on time, at least eventually.

**Annual Operating Costs:** The overhead and operating cost of the factory is about 450,000 \$US per year.

**Annual Sales:** 150,000 US\$ in 2003 and projected to reach 180,000 US\$ in 2004. Since the business operates at a substantial loss, the investors have to cover operating costs and debt service from their own personal funds.

**Market:** Semi-finished furniture, fences and roofing tiles are exported to Thailand and to the European Union.

**Capital:** The total investment is about 3,000,000 \$US (including its plantation investments).

***Perception of Constraints:***

- Insufficient supply of raw Eucalyptus logs;
- Heavy debt service burdens;
- Poor quality of product line;
- Customs duties and non-tariff barriers;

- High container transit transport costs;
- Insufficient working capital;
- Marketing

***Improvements Required to Boost Output, Productivity and Profitability:***

Major factors for optimal profit margins include:

- Assistance with product design and diversification;
- Assistance with finding additional investors;
- Assistance with supply chain management;
- Assistance with business planning;
- Assistance with marketing

***11. NONG DOUANG SLAUGHTER HOUSE.***

Nong Duang Slaughter House is a private business that was established in July 2002 with the total investment of 50,000 \$US. The daily meat production of the factory is 12 tons of which 83% is pork and 17% is beef. The total number of employee is 6 men. The factory provides only facility and cleaning services for its clients. The clients have to bring their own labor for slaughtering the animals. The majority of the animals are procured from Savannakhet, Champassack and Xinegkhouang. Animals in the Vientiane Municipality represent only about 35% of the supply. The service charges are 13,000 Kip (1.15 \$US) and 17,000 Kip (1.50 \$US) for pigs and a cattle, respectively. Due to outbreak of the bird flu in early 2004, the production of meat cannot meet the increasing domestic demand, especially for pork.

The owner would like to upgrade its factory to provide a full range of standard services including meat packaging.

***Annual Operating Costs:*** The operating cost of the factory is about 1,400 \$US per month, or 16,800 US\$/year.

***Annual Sales:*** 52,500US\$

***Market:*** Produce from the slaughter house is marketed at Thangkham, Nong Duang and Phonetong markets.

***Capital:*** The total registered capital is 50,000 \$US.

***Perception of Constraints:***

- Insufficient supply of pork.
- If the factory were going to be upgraded, assistance in business planning and access to investment capital would be needed

### ***Improvements Required to Boost Output, Productivity and Profitability:***

Major factors for optimal profit margins include:

- The factory could be upgraded for and expanded range of services to meet the future demand for processing of pork meat. After the outbreak of the bird flu, the price of pork in 2004 has rocketed from 17,000 Kip to 30,000 Kip. Many chicken producers have turned to pig breeding business. In the next few years, the pork supply would be saturated and there would be a need for processing and packaging of pork meat for longer distance sales and exports.

### ***12. OUDAI CHICKEN FARM.***

Oudai Chicken Farm was established in 1990 with the total investment of about 38,000 \$US. The farm has 6 workers; half are women. The farm is located of about 25 kilometers north of Vientiane Municipality so it was not affected by the outbreak of the bird flu. Before the avian flu outbreak, the farm produced layers for the Vientiane market and imported baby chicks from Thailand. Presently, the farm produces eggs for the local market. The actual output is 6,800 eggs a day. The farm supplies eggs to the markets in Vientiane Municipality and Vientiane Province. The daily demand for eggs in Vientiane is about 110,000. Presently, the Oudai Farm supplies about 30% of egg market in Vientiane. The farm gate price of an egg is 770 Kip and the market price is 1,000 Kip (0.10 \$US).

The farm also integrates fish farming with chicken farming over a total area of 6 ha. If the problem of avian flu cannot not be resolved in the near future, the farm will have difficulty with supplying of chickens at the same levels that existed prior to the flu outbreak. The owner plans to expand his integrated fish and chicken farming using re-invested profits.

***Annual Operating Costs:*** The annual operating cost of the farm is about 19,000 \$US.

***Annual Sales:*** 150,000US\$

***Market:*** Its markets are in Vientiane Capital, Vientiane Province and Xaysomboun Special Zone.

***Capital:*** The total investment is 38,000 \$US.

### ***Perception of Constraints:***

- Chicken supply constraints caused by the bird flu epidemic.
- If the owner expands his business, he would not be constrained by investment capital. However, he would encounter technical needs and face on- farm management problems.

### ***Improvements Required to Boost Output, Productivity and Profitability:***

Major factors for optimal profit margins include:

If the farm will be expanded, assistance in integrated chicken and fish farming and business management would be required.

### ***13. PAKSAP SUGAR MILL***

The Paksap Sugar Mill was established in 1989. In 1992, the mill was bought by a Thai company. The total cost was 2.3 million \$US with the long term payment of 15 years at 2% interest rate, and a grace period was 5 years. The mill produces 100% raw sugar. Raw materials for the production are sugar canes that are grown locally along the Nam Ngum River in Vientiane Municipality. The capacity of the mill is 150 tons a day. The Thai company is constructing a new mill with a capacity of about 2,500 tons a day.

The factory has a total plantation area of about 3,000 rai or about 400 ha of which 70% is the area operated by contract farmers. The factory provides sugar cane planting material, technical support and resources for land clearing to farmers at an interest rate of 12% per year. The cost for land development is about 400 \$US per hectare. The factory has set up a small plot for testing various varieties that would be appropriate to the soil structure and climate in its plantation area. The plantation areas are scattered in small plots and farmers tend to stop growing sugar cane after they pay back their loans to the factory and sell their land for higher prices offered by the market for cleared land.

The factory operates only 4 months a year from December to April. During the high season, the factory runs 24 hours/day and employs about 100 workers. The permanent workers of the factory are 60 persons; 7 of these are women. In the last season the factory produced 600 tons of raw sugar. The factory sold its sugar to the distributors in Borikhamxay, Km 20, Khamouan and Savannakhet province. Its market share was about 3%. The factory price of sugar was 2,860,000 Kip (262 \$US) per ton. The total income in 2003 was approximately 114,000 \$US against an operating and overhead cost 225,000 US\$. The factory must procure sugarcane with a radius of 50km from the factory to be cost competitive because of high Lao PDR transport costs.

***Annual Operating Cost:*** The annual operating cost of the factory is about 225,000 US\$.

***Annual Sales:*** 114,000 US\$

***Market:*** Shares 3% of the market in Laos. Main distributors are in Savannakhet, Khammouan, Km 20 and Borikhamxay.

***Capital:*** The total registered capital is 2.3 million US\$.

### ***Perception of Constraints:***

- Inadequate supply of sugar cane;
- The mill could produce only raw brown sugar that cannot compete with Thai fine

white sugar for the larger markets in Vientiane and Luang Prabang.

***Improvements Required to Boost Output, Productivity and Profitability:***

Major factors for optimal profit margins include:

- Assistance in organizing farmers for sugarcane cultivation;
- Technical assistance in improvement of product quality, market expansion and cost control.

***14. PHANCHALEUN CHICKEN FARM.***

The Phanchaleun chicken farm was established in 1997 with the total investment of about 150,000 \$US. The farm borrowed about 114 million Kip (11,000 \$US) from the BCEL with the annual interest rate of 18%. The farm was badly affected by the avian flu epidemic. After the epidemic, the farm had to borrow about 130 million Kip (13,000 \$US) from BCEL to switch to pig raising. Presently, the farm raises about 50 pigs. The farm has 4 workers of which 2 are women. The owner also plans to invest in charcoal production with the estimated investment of about 12,000 \$US.

In 2003, the farm produced about 20,000 layers and a small proportion of eggs to the markets in Vientiane Capital. The last year sale was about 55,000 \$US. Baby chicks for the production of layers were imported from Thailand. The farm uses Thai feed and vaccine.

***Operating Costs:*** The operating cost in 2003 was about 7,700 \$US before avian flu.

***Annual Sales:*** 55,000 US\$ before avian flu.

***Market:*** The main markets in 2003 were the chicken farms and markets in Vientiane.

***Capital:*** The total investment was about 150,000 US\$.

***Perception of Constraints:***

- Absence of supply of baby chicks to produce layers and eggs.
- Absence of business planning and capital for setting up new businesses.

***Improvements Required to Boost Output, Productivity and Profitability:***

Major factors for optimal profit margins include:

- There is a expectation hope for the chicken farm to recovered unless without the development of an avian flu vaccine;
- If the farm set up a new business new business planning and access to capital would be necessary.

## 15. SENGSAVANG FINGERLINGS HATCHERY FARM.

Sengsavang Fingerling Hatchery Farm has started its business in Laos since 1975 with a small establishment. Its main products are fingerlings and fish. The farm has the total area of about 11 hectares with 75 ponds for the production of fingerlings and breeding stock. In addition, the farm also raise tilapia in 100 cages along Nam Ngum river in Ban Hai and KM 9. The farm produces about 10 million fingerlings and 80 to 100 tons of fish annually. The price of the fingerlings varies from 80 to 250 kip each depending on the species. The price of the fish is about 12,000 to 18,000 Kip depending on the size and species. The farm has 15 workers with no women in the work force.

The farm operates as 550000kgg/day feed mill and production of fish feed. Eligibility for receipt of raw materials for the production of feed are procured locally. Raw materials for the feed mill are sourced as follows: (i) fish meal from Vietnam; (ii) soybean meal and supplement from Thailand; and (iii) maize from Laos PDR. By production of fish feed, the farm can reduce its operating cost by almost 50% below cost of other farms that depend exclusively on Thai imported feed. The Thai feed cost is about 66,000 Kip (0,660 \$US). Feed produced by the company cost is about 33,000 Kip/kgg.

The farm has never borrowed money from the bank. It re-invests some of its profits for business and market expansion.

**Annual Operating Cost:** The annual operating cost is about 96,000 \$US. The cost for feed represents about 70% of the operating cost.

**Annual Sales:** 350,000 US\$

**Market:** The farm sells fish and fingerlings directly to farmers, consumers and to middlemen. It shares about 50% of fingerling market in the country and 5% of fish market in Vientiane Capital.

**Capital:** The total investment was about 500,000 US\$.

### **Perception of Constraints:**

- The main constraint of the farm is the insufficient supply of electricity. The owner has to produce the feed at his residence, which is about 2 kilometers from the farm.
- The owner mentioned that there is a constraint to manage the sale of the fish if he does not supervise it by himself there will be a leakage.

### **Improvements Required to Boost Output, Productivity and Profitability:**

Major factors for optimal profit margins include:

- Technical training and study tours to successful aquaculture operations in Asai like Charoen Pokphanh (CP) in Thailand.

### **16. VANID FARM.**

VVaannidd ffaarmm hhaass tthhee ccoonnceesssioonn too ussee tthhee ppiigg ffaarmmss off tthhee MMinniisstry off AAggricuultuurree aannd FForresstry ffor 2200 yeeass. Iit hhaass ssaariteed iit bbaussiness siincee 199922 wwith tthhee innveestmment off abboot 22.55 millioonn \$US. TThhee ffaarm hhaass tthhee tootall woorkers off 116600 aannd 1100 off tthemm aree woommeenn. TThhee ffaarm pprooduceess piglets aannd pigs too tthhee maarkett. AAll toogeeitheer iit hhaass tthreee ffaarm aannd inn 2200055 iit wiill buidd aa neew ffaarm. TThhee ffaarm hhaass aa plaann too expannd iits bbaussiness buuy seettling upp aa ssaanddaard suppeer maarkett ffor tthhee poork pproduceess. TThhee ffaarm wiill neeed caapital ffor tthhee expannsioonn off iits bbaussiness.

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TThhee ffaarm pproduceess litt oown feed. Eaach yeeare tthhee ffaarm pproduceess maizee, Jobb's Teeare aannd sooybeeann abboot 11,00000 toons eaach. Maizee iss bougght loocallly froom ffaarmeers alonng Paak NNgum areea aannd Paaklaai aannd Keenthaaoo Saayaabourry pprovee. Sooybeeann iss impoorrted froom Thhaillaand aannd Jobb's Teeare iss supplied by loocall middlemenn traders.

**Annual Costs:** 597,190 US\$

**Annual Sales:** 663,550 US\$

**Market:** Presently, the farm has captured about 50% of pork market in Vientiane.

**Capital:** The total investment was about 2.5 million \$US. In the past, the Company borrowed from the Agricultural Promotion Bank (APB): the first loan was 70,000 US\$

and was repaid in 1995. The second loan, repaid with two years, was 200,000 US\$. Currently, the Company has an outstanding loan of 250,000 US\$ from APB.

***Perception of Constraints:***

- After the outbreak of avian flu there is a high demand of piglets and the supply from the farm cannot meet the demand. Many chicken farms have turned to pig farming as a survival strategy, following the avian flu outbreak. This will likely result in the oversupply of pigs in the next 2 to 3 years.

***Improvements Required to Boost Output, Productivity and Profitability:***

Major factors for optimal profit margins include:

- The farm will need additional capital to expand its business;
- In the future the farm will need technical assistance for marketing and processing of its products.

**17. VIENGXAY RICE MILL**

VViengxay R Rice Mill was set up 77--88 years ago with the aim of increasing the output of 44 million Batches ((11000,00000 \$US\$)). The capacity of the mill is 11 tons per hour. The extra capacity rate of the mill is 6600%% with the brookken rice of about 55%%. The mill buys rice from the middlemen in Paakssee, Savannakhet and Savannakham. The mill has a warehouse for the rice about 55,00000 tons. The mill has 1155 workers of which 22 are women.

The main cost of the mill's output is the Lao millage with the Commission too purchase 33,00000 tons each year. Each year the mill will buy about 55,00000 tons of paddy to supply rice to the millage. The fixed price for paddy should to the millage is 11,335500 Kipp per kilo ((this is likely to be 22000-Kipp lower than the price paid to the middlemen)). The mill can keep rice for a long time for milling service. Due to the flood in early 2200044, the mill has been unable to sell its rice for a long time.

For one ton of rice the owner can get 25 kilos of rice bran that she can sell for 800 Kip/kg. In the absence of flooding and droughts this year, there is a large surplus of rice on the Vientiane market.

The owner will upgrade her warehouse but she is not interested in silo development because of the high investment cost and her small scale rice market.

**Overheads and Additional Costs:** The annual overheads cost of the mill is about 20,000\$US. The working capital is about 350,000\$US

**Annual Sales:** 400,000 US\$

**Market:** 75% of the mill's customer is the military.

**Capital:** The total investment was about 100,000 US\$.

**Perception of Constraints:**

- Substandard storage system
- Limited market for rice bran due to bird flu.

For one ton of rice the owner can get 25 kilos of rice bran that she can sell for 800 Kip.

The owner will upgrade her warehouse but she is not interested in silo because of the high investment cost and the small scale of her rice market.

**Improvements Required to Boost Output, Productivity and Profitability:**

Major factors for optimal profit margins include:

- Expansion of storage space

## **18. THA NGONE AGRICULTURAL TOOLS FACTORY**

The Tha Ngon Agricultural Tools Factory commenced operations in 1991 with the total registered capital of 400,000 \$US. It is 100% Thai investment. In 2000 the factory increased its registered capital to 500,000 \$US and to 1,1 million \$\$ in 2004. It is an assembly plant for agricultural machinery. The factory produces its products according to specific orders and does not maintain a standing inventory. The main products are small tractors, trailers, trashing machines, rice or maize mills, carts, feed mixing machines and others. The factory has a debt burden of about 700,000 \$US to its Thai suppliers of raw materials. The factory employs about 42 workers of which 25 men are in the production line, 10 men in the service sector and 5 employees working in administration and sales. The factory has the capacity to produce about 5 trailers a day or one threshing machine with the daily capacity of 2 to 3 tons in three weeks. The company has built a new assembly plant in a compound of 3 ha and plans to expand its business but, due to the high cost of production and market competition from machinery importers, the production of the factory has slowed down considerably. The factory cannot compete with imported products because it has to import all raw materials at high Lao import duties. Another problem is that the farmers prefer to buy imported products in preference to Lao products. The company is trying to improve its marketing strategy by providing free services for the lifetime of its products and plans to upgrade the factory with improved technology.

**Annual Operating Costs:** The overhead and operating cost of the factory was about 195,000 \$US.

**Annual Sales:** 188,000 US\$ in 2003. The factory has faced financial lost since the financial crisis in 1997. The investor has to cover operating costs and debt service from their own personal funds.

**Market:** farmers in Laos and government projects.

**Capital:** The total investment is about 1,100,000 US\$ (including its plantation investments).

**Perception of Constraints:**

- Heavy debt service burdens;
- Customs duties barriers;
- Capital for expanding the factory
- Marketing

**Improvements Required to Boost Output, Productivity and Profitability:**

Major factors for optimal profit margins include:

- Assistance with business planning;
- Assistance with marketing;
- Assistance with policy to promote the kind of business in Laos;
- Assistance with capital to reduce production costs by installing improved technology.

## **19. NIKONE HANDICRAFT**

Nikone Handicraft was established in 1992 with the total registered capital of 28,000 \$US. The main products are wide range of Lao silk and cotton textile with natural dyes. About 80% of the products are made of silk. The shop buys silk yarn directly from the producers. Cotton yarn is procured from Lao Cotton Textile Company and Lahasin Textile Company in Savannakhet province. The owner has a policy to promote the use of local products. She also promotes the commercial production of raw materials. She spends a lot of times in product development and in marketing. She thinks that the government agencies could help in these areas.

The business exports about 80% of its products. Every year the owner goes to the trade fair in Frankfurt for marketing of her products. Most her clients are visitors to the trade fair. Their orders enable her business to operate all year round. The owner also sells handicraft tours to study the process for making Lao handicrafts. The owner has established a network of weavers and her factory serves as a training center for improving the skills of weavers and other interested persons. She has about 100 weavers of which 80 are the permanent workers. The factory also produces goods for home decoration like curtains, cushions, bed covers. The

owner uses DHL to deliver her products to the customers. The cost for shipping is about 10 % of the cost of her products.

**Overheads and Additional Costs:** The annual operating cost is about 160,000\$US to 180,000 \$US. She has profit margin of about 20%.

**Market:** 80 % of the products are for export to EU countries, Japan, Hong Kong and Singapore.

**Capital:** The total registered capital is about 28,000 US\$.

**Perception of Constraints:**

- Her market is expanding every year it is difficult for the owner to do everything by her own.
- Though some procedures for export have been improved, she still faces time constraints in getting approved documentation for export licensing.

**Factors Necessary for Highest Potential Outcome:** Major factors for optimal profit margins include:

- Assistance with production of good quality raw materials;
- Assistance with market promotion;
- Assistance with product development.



## ANNEX 2: *GUIDELINES FOR AGRIBUSINESS PLANNING*

### The Basic Roadmap for Agribusiness Planning

#### 1. THE PROJECT OR BUSINESS DESCRIPTION

The project or business description should:

- a. Clearly identify the primary goals and objectives of the project or business and the reasons for doing it. Identify why your products or services are necessary. Who will benefit from your product or service?
- b. Describe the (business) project and its principal activities or product/service. The

- nature of the business? Channels or niches to be filled?
- c. Describe the form of the organization: corporation, partnership, not-for-profit or other and clarify its tax status.
  - d. Describe the project time-table including the current status of the project and the amount of work that has been done thus far. Explain when commercial operations will commence.
  - e. Identify the location of the operational and the local availability of resources, utilities, manpower and public transportation and transport infrastructure, such as roads, and shipping facilities.
  - f. Set out what licenses and government approvals are required and which have already been obtained.

## 2. A PROFILE OF MANAGEMENT AND KEY PERSONNEL

This section should provide detailed information about sponsors, partners, and key management staff. It should be determined why are they the best people for the job. Data should include age, education, current occupation, and relevant business and management experience. This section should outline the duties and pay scale of each individual and describe the plan for hiring and training other personnel including wage and benefit structures.

## 3. THE OPERATIONAL OR PRODUCTION PROCESSES

This section should describe how the products and services will be produced.

- a. Cover the sources and procurement methods for all necessary raw materials, inputs, and equipment. Include contingency plans.
- b. Identify quality control measures.
- c. Calculate operational flows, production schedules and physical layouts.
- d. Determine inventory levels and inventory control methods.

## 4. List Tangible and Intangible Assets

This category includes technology, buildings, equipment, contracts and key industry "partners" or suppliers.

- a. Describe any proprietary technology or process and technical support arrangements for adapting to the local environment and needs.
- b. Describe and value the land and civil works, buildings and equipment or determine how to build or procure them (leasing, buying, importing).
- c. Mention valuable contracts or "partnerships" with suppliers, vendors, or buyers.

## 5. THE MARKET ANALYSIS AND STRATEGY

As competition increases marketing becomes a critical aspect of success. This caveat applies equally to development projects: if clients are not aware the business, its services, or the value it can provide then the work of the business is seriously hampered. Marketing is often overlooked especially in countries without the experience of a market economy. This deficiency is a major flaw noted in Case studies ( 2- Champa Lao Ltd, 9- Nabong Dairy Farm and 10- Burapha Furniture Factory). This element of business operations is a particular strength of case studies (6-Lao Agro Industry Company and 16- Sinouk Sina Lao Coffee)

### **The market analysis and strategy identifies clients, product, price, path, promotion**

- a. The key element of successful marketing is to know clients -- their likes, dislikes, expectations, and trends. Doing a thorough analysis of your market is therefore essential for developing a marketing strategy.
- b. The features and benefits of the products or services must be thoroughly explained. How does the product or service satisfied client needs? What comparative and competitive advantages does it have?
- c. What path or channel of distribution will be utilized? In the business a wholesaler, exporter, retailer? Describe the supply channel and contingency plans for any reasonably foreseeable failures within it.
- d. What is your pricing strategy for the product or service and what does your market research information say the market will pay? How does this compare with the competition? What will your terms of sale be: cash, credit, LC, etc.?
- e. What is going to be the promotional strategy? Determine your market position: follower versus leader; quality versus price; client oriented; etc. and the methods for conveying it effectively.
- f. A market analysis must go beyond the potential clients. The Plan should provide a realistic assessment of both existing and expected competition. It supply reasonable information about competitors' market share, cost margins, quality levels, special niches, and future potential. The plan should clearly define what the businesses competitive strategy.

## **6. THE FINANCIAL PLAN AND DOCUMENTS**

The bottom line is whether the project be financially sustainable or whether the business make a profit? This is where the Plan tells the financial story and shows evidence supporting financial projections. The financial plan should be complete and accurate and the revenues and expenses in your documents must agree with the statements and projections made in the rest of the business plan.

The first step is a financial plan. To support the basic financial plan the enterprise will need three separate documents:

- a. an income (profit and loss) statement;
- b. a balance sheet
- c. a statement of cash-flows

The **financial plan** should include a budget with projections of revenue, expenses, and profits. This requires a careful estimation of the cash-flow needs. Include the following:

- a. Estimate projected **start-up budget** (costs incurred prior to operation) including:  
legal costs; government permits and licensing fees; consultant's fees; engineering design and planning fees; equipment; insurance; accounting; utilities set-up and deposits; costs of hiring and training personnel; advertising and promotion
- b. Calculate the **operating budget** allowing enough money to cover the first six months of operation since it will probably be unprofitable at first. Include the relevant items from the list above plus the following:
  - salaries/wages
  - compensation of officers (management)
  - employee benefits
  - rent
  - interest payments
  - depreciation
  - advertising and public relations
  - supplies
  - repairs/maintenance
  - taxes and licenses
  - accounting and legal
  - insurance
  - travel
  - utilities
  - telephone and postage
  - fees/dues/subscriptions
- c. Estimate **total investment** including land, buildings, equipment, utilities, working capital, and interest.
- d. List the sources of financial support and contributions that the business can expect. Each area of the financial plan should be keyed or referenced to a separate list that explains all projections and assumptions should any point require a detailed explanation.

## **Financial Statements**

The business should understand and prepare projections for three basic financial statements. These projections should be for at least three and generally five years:

- a. The income (the P&L or profit and loss) statement that projects and allows the

- business to track your income, expenses, and profits (or losses).
- b. The balance sheet, which is a snapshot record of assets, liabilities, and capital.
  - c. The statement of cash flows, which provides information about the business's ability to generate cash, as well as monthly projections of the sources and uses of cash for the business. These should be detailed for at least the first 12 months.

Each area of the financial statements should be keyed or footnoted to a list that explains the detailed basis for the projections and assumptions that are listed on the statements.

### Some Useful Financial Calculations

The **breakeven analysis** can be a very useful calculation to illustrate the required minimum level of performance as measured by revenue or sales. To quickly calculate a basic breakeven point simply divide your fixed or unavoidable expenses by your gross profit margin which is gross profit divided by sales. There are several methods that can be used to evaluate the financial feasibility of an investment project. One method is **payback**. This method is used to calculate how quickly a project or enterprise will pay back the initial investment and then determine if this is an acceptable period of time to wait.

To apply this method, first calculate projected future income from the project and then count the number of periods before the cumulative forecasted cash flow equals the initial investment. Another method for evaluating project investments is to calculate the **net present value** of the project by discounting the forecasted future cash flows using the opportunity cost of capital, or the rate of return offered by 'alternative investment alternatives. Approximate options of this rate of return could be the rate of interest paid on bank deposits or the return offered on investment securities. The formula to calculate the net present value is somewhat complicated and can best be illustrated using an example. The present value of a project is equal to the sum of each future annual cash flow divided by the sum of one plus the rate of return raised to an exponential power equal to the number of years the cash flow must be discounted back. Then, the net present value is this present value minus the initial investment required. For example, the net present value of a two-year project with a cost of 1,000 and expected income of 500 in the first year and 700 in the second year, assuming a discount rate of 10%, is equal to 500 divided by 1.10 plus 700 divided by 1.10 squared, or 1.21, minus the initial investment of 1,000. Using this formula, the net present value of this project is equal to 33. Any project with a positive net present value is considered viable from a financial point of view. A similar method to analyze the feasibility of an investment opportunity is **internal rate of return**.

Under this method, the internal rate of return is the discount rate that sets the net present value equal to zero. Using the example presented above, the internal rate of return, or IRR, can be derived by using the equation net present value of zero equals 500 divided by 1 plus the IRR, plus 700 divided by the sum of 1 plus the IRR, squared, minus the initial investment of 1,000. In this case, the IRR is equal to 12.3%. Actual calculation of the

internal rate of return is somewhat tedious and time consuming and is usually performed on a computer or programmable calculator. Projects that have an internal rate of return greater than the opportunity cost of capital can be considered financially viable.

## **7. REFERENCES AND SUPPORTING DOCUMENTS**

Provide reference letters, Curriculum Vitae for key personnel, credit reports and any other supporting documents (i.e. contracts with buyers, patent documentation, letter of intent from additional lender or landlord, etc.) as appendices.

## **8. Executive Summary**

Although this is written last it is often the part that is read first. A summary should cover the main points in approximately one-page without delving into the details of the document except perhaps to mention the supporting details contained within the business plan. A test of its success is if it makes the reader want to know more about the project or business.

It should include:

- a. a short history identifying the business or project
- b. a clear statement of both its short term and long-term goals and how these will be achieved
- c. the identity of the main protagonists
- d. the amount of money already invested, the amount needed and the security offered
- e. expected return
- f. the primary reasons why the project or business will succeed





## **Annex 1:**