CHAPTER 1

INTRODUCTION

The Eighth National Economic and Social Development Plan (1997 – 2001) of Thailand marked the shift in national development focus from growth orientation to growth with stability (NESDB, 2008a). The country indeed was considered successful in its development efforts as its implementation of the preceding Plans had resulted in an impressive average annual GDP growth rate of 7.8 % with the increase in per capita income from 2,100 baht in 1961 to 68,000 baht in 1995 (NESDB, 2008b). However, problem of income inequality continued to grow worse as shown in a NESDB report (NESDB, 2011) that in 2009 the per capita income levels in the North and the Northeast were 71,105 and 45,661 baht respectively while the figures for Bangkok Metropolitan and its neighboring provinces, and the Central region were 327,813 and 229,741 baht respectively. The sectoral and regional income disparity gave rise to rural – to – urban migration phenomena resulting in rural labor shortage and adding further social problems to urban towns and cities. Moreover, the earlier economic development efforts with emphasis on infrastructural building, industrialization, tourism, as well as agricultural commercialization have led to the intended and unintended destruction of natural resources and the environment particularly through the processes of converting mangrove forests for shrimp farming, clearing upland forests for maize cultivation, and encroaching various national park areas to build resorts and other tourism facilities. Such developments without heedful

consideration of the future generations are sign of an unsustainable system. The sustainability of both rural farming and urban community must be supported by the three fundamental pillars, environmental, economic, and social (Gomez-Limon and Riesgo, 2009). By virtue of Pareto Optimality doctrine, it can be said that sustainability is assured when the needs of the present generation are met without impairing the needs and welfare of the future generations.

As Thailand evolved toward market and industrialized economy after several development plans, its production and export structures also changed accordingly. Notably since the fifth Plan onward, the largest GDP share which used to be contributed by agricultural sector has been accounted for by manufacturing sector and likewise agriculture no longer had the dominant share in the country's export value (NESDB, 2006). Nevertheless, agriculture still remains the primary productive sector for the livelihoods of the majority of the Thai citizens and the largest labor employment sector as evidenced by the 2008 statistics that 39.0 % of labor force was employed in agriculture while the manufacturing sector could absorb only 14.5 %, but paradoxically the agricultural sector had only 8.9 % share in GDP and the manufacturing sector accounted for 40.1 % (Table 1.1).

To deal with rural poverty and labor employment problems, Thailand has adopted the concept of community enterprise since the ninth National Development Plan onward to promote the One Tambon One Product (OTOP) scheme as a mechanism for fostering people's role and potential at the grassroots level to the capacity of national development partnership when various rural communities are successful in blending their local resources and cultural heritage to produce marketable unique products and thus generating rural employment and income while

contributing to a more balanced macro economy (Wiboonpongse, 2006). Many community enterprises have demonstrated to play a catalyst role in creating employment and income in rural communities which led to the reduction of rural poverty to certain extent while some also functioned to provide opportunity for community enterprise's members to gain management knowledge and skills to become local entrepreneurs and thus indirectly helped curb the movement of rural labor migration to cities, as well as possibly can help build up the community strength in the long run (Jantradech, 2003; Kittisataporn, 2006). Nevertheless, crucial problems and constraints were encountered and some lessons had been learned in the process of this development endeavor such as the inadequacy of certain community enterprise's working capital and its lack of collaterals for borrowing funds from external sources, poor management capability, marketing related problems like unsuitably-named brand and packaging as well as limited product distribution channels, inadvertent production wastes and pollution, and most critically the lack of continuity and comprehensiveness of supports from pertinent government agencies. Although community enterprises have been expected to be a prime mover of semi self-made rural economic development, so far there exists no comprehensive study and analysis on the impacts of community enterprise operations on the economic, social, and environmental dimensions of the rural area and beyond. It thus becomes vitally important to assess the impacts of community enterprise activities on income, labor employment, backward linkage for raw material inputs and forward linkage for value creation which are tentatively positive developments, as well as explore the associated negative environmental impacts such that appropriate strategies can be determined to promote and guide the community enterprises' operations and

management in the manners and ways to realize the reduction in rural poverty and the lowering of undesirable environmental impacts.

Table 1.1 Economic structure and labor employment

Sector	2005			2008		
	GDP share (%)	Employment (%)	Labor/ GDP ratio	GDP share (%)	Employment (%)	Labor/ GDP ratio
Agriculture	9.00	37.70	4.18	8.90	39.00	4.38
Manufacturing	38.90	15.50	0.39	40.10	14.50	0.36
Wholesale and retail trade	14.00	15.40	1.10	13.80	15.30	1.10
Other services	38.10	31.50	0.83	37.20	31.30	0.84

Source: Bank of Thailand, 2009.

1.1 Principles and rationale

Longan is a major fruit crop in Upper Northern Thailand generating substantial local farm employment and income every year. In 2009, the country's longan planted area was 1,044,359 rai which contained 968,717 rai of harvested area yielding 598,872 tons of total output (Table 1.2). The North is the largest longan growing region with 922,804 rai of longan tree area in the same year (88 % of the country's total) out of which 876,385 rai having fruit bearing trees and producing 486,351 tons of output (81 % of the country's total). Among the northern provinces, Lamphun has the second largest longan area, after Chiang Mai, covering 274,308 rai (30 % of the total longan area in the North) which included 265,756 rai of fruit bearing trees that yielded 173,243 tons of output in 2009 (36 % of total longan output in the North). Export of longan from Thailand is generally in three major forms: fresh fruit, dried

Table 1.2 Longan planted area, harvested area, total output, and yield in 2008 and 2009.

Province	Planted area (rai)		Harvested area (rai)		Total output (ton)		Yield (Kg./rai)	
	2008	2009	2008	2009	2008	2009	2008	2009
Whole nation	1,035,556	1,044,359	966,831	968,717	476,930	598,872	493	618
Northern region	927,684	922,804	874,442	876,385	382,114	486,351	437	555
Northeastern region	54,834	53,738	51,105	50,197	20,335	20,397	398	406
Central region	53,038	67,817	41,284	42,135	74,481	92,124	1,804	2,186
Total 8 upper northern Provinces	887,495	884,398	837,817	841,335	367,763	471,460	439	560
Chiang Mai	317,173	318,760	304,824	309,985	150,993	178,861	495	577
Lamphun	275,871	274,308	265,395	265,756	120,399	173,243	454	652

Source: Office of Agricultural Economics, Ministry of Agriculture and Cooperatives(2010a). (05/10/2010).

longan, and canned longan. During 2000 – 2009, both quantity and value of longan export were on the rising trend except in some years when output was low due mainly to the alternate year fruiting nature of longan trees. Total longan export in 2009 (Table 1.3) consisted of 220,046 tons of fresh longan, valued at 3,507.3 million baht (51.4 % of total export value), 144, 154 tons of dried longan valued at 2,589.6 million baht (37.9 %), and 727.5 million baht (10.7 %) of canned longan. The export volume of dried fruits was about half of that of fresh fruits but the export values of both were comparable. Dried longan, however, can be further distinguished into two categories: the unpeeled dried fruits and the peeled and pitted dried flesh which is commonly

Table 1.3 Exports of fresh longan and longan products from Thailand during 2000 – 2009.

Year	Fresh longan		Dried longan		Canned longan		Total value (million baht)
	Quantity (ton)	Value (baht)	Quantity (ton)	Value (baht)	Quantity (ton)	Value (baht)	
2000	102,927	2,160.6	55,904	2,414.9	11,715	476.3	5,052
2001	102,903	1,975.0	26,838	1,310.0	8,969	367.0	3,652
2002	114,403	1,986.8	29,917	1,326.1	11,507	412.7	3,726
2003	82,732	1,718.3	59,157	2,511.6	13,543	495.7	4,726
2004	116,042	2,191.5	71,563	1,534.2	11,321	403.3	4,129
2005	133,046	2,167.5	94,088	2,277.9	12,632	442.2	4,888
2006	119,138	2,120.6	78,363	1,604.8	11,279	402.9	4,128
2007	160,391	2,451.5	112,752	2,017.4	13,484	477.0	4,946
2008	168,632	2,630.2	91,567	1,832.6	26,130	588.2	5,051
2009	220,046	3,507.3	144,154	2,589.6	45,776	727.5	6,824

Source: Office of Agricultural Economics, Ministry of Agriculture and Cooperatives(2010b). (05/10/2010).

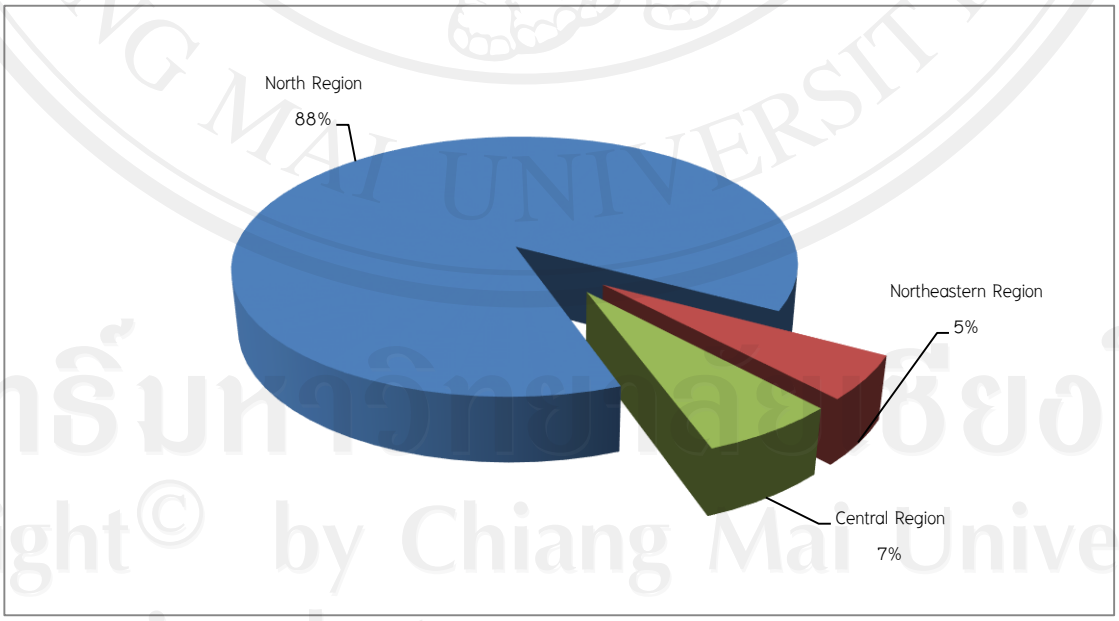

Figure 1.1 Longan planted area by region (%) in Thailand in 2009

called golden brown dried longan. Processing of dried longan flesh is more complicated than that of unpeeled dried fruits and is an input-intensive undertaking. Producers of golden brown dried longan flesh have to pay close attention to the production process which involves the high labor inputs for peeling and pitting longan fruits, for oven-drying operation, and for quality control and grading. The drying-oven in general is built according to the local folk technique and uses fuelwood as heating energy. Peeled golden brown dried longan processing and marketing is indeed a high-input, high cost, and high-return venture as the product can fetch the prices 3 – 5 times higher than those for the unpeeled dried longan. Consequently, many dried longan flesh producers have organized themselves into community enterprise or network to gain more efficiency and returns to avoid the low price of products. The promotion of golden brown dried longan flesh production and trade especially in the form of community enterprise to replace individual operation of unpeeled dried longan processing is therefore envisioned to be an effective policy to help increase rural employment and income but with a reservation about the implications of fuelwood burning for the drying process especially on carbon dioxide emissions and human health. So far no research has been done on the impacts of community enterprise operations on the economy and environment of the local community and thus there exists no solid ground for designing correct and appropriate strategic plans for the long run development of community enterprise of golden brown dried longan flesh producers. Furthermore, there are a number of the yet unanswered questions which may be useful for policy making authorities to pay attention to in order to judge whether or not the golden brown dried longan flesh processing community enterprises can function to contribute to the long run economic and

environmental sustainability of the community. The most fundamental question involves the extent of the community enterprise's economic impacts on other parts of the economy such as employment and income of other villagers, the backward linkage with raw material suppliers or longan growers, and the forward linkage with other industries. Another question is on the nature of potential impacts of the community enterprise's operations on the resources and environmental conditions which leads to another matter of inquiry whether preparation has been made for managing and mitigating the negative impacts. The last but not least crucial question relates to the state policy impacts on the sustainability status of community enterprise particularly that involving minimum wage which may weaken the financial performance of the organization to the point of not being self-reliant and which the community enterprise has not yet prepared itself to make any plans to cope with the higher labor cost issue. The present study therefore aims to make an investigation into the impacts, both positive and negative, on local agricultural economy and the environment of a community enterprise that procures off-grade fresh longan fruits as raw material and uses the local folk oven-drying based on external fuelwood burning technique for processing golden brown longan flesh. It is hoped that the findings from this study will provide exceptionally useful information for both the community enterprise to draw up its development plan and the state agencies' authorities to consider budget allocation for the development of rural areas and community enterprises.

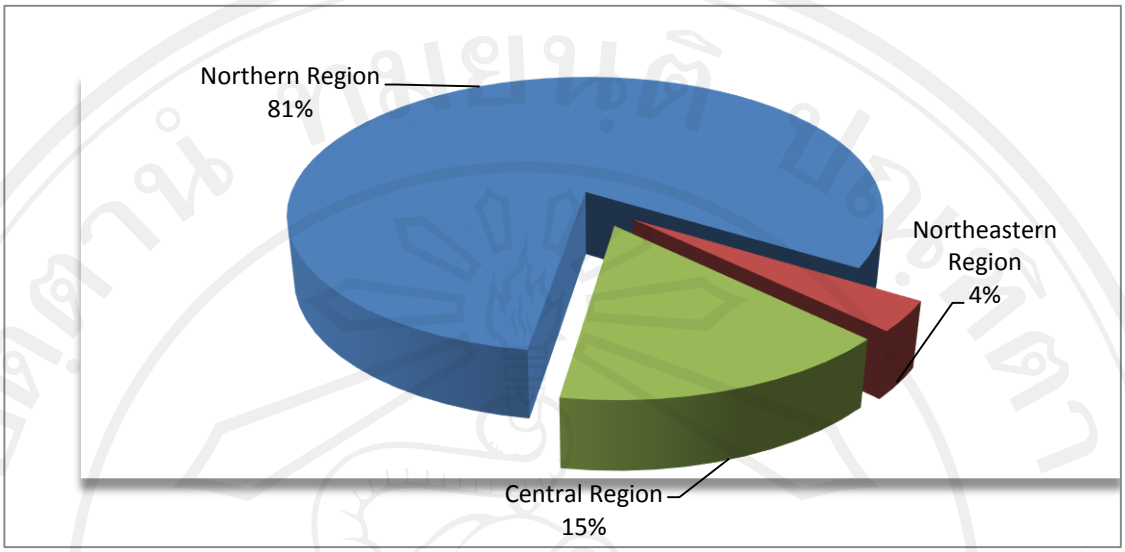

Figure 1.2 Longan output by region (%) in Thailand in 2009

1.2 Golden brown dried longan community enterprises

Various golden brown dried longan processing community enterprises in Mueang District of Lamphun Province had formed themselves into a cluster and started the networking activities from March 2010 onward. The cluster members in the initial year of establishment were those 41 golden brown dried longan processing community enterprises in six tambons of Mueang Lamphun District including Makhuea Chae, Umong, Mueang Nga, Pratu Pa, Nong Nam, and Mueang Chi which collectively had 356 units of longan drying oven and 328 processor memberships (Cluster of Golden Dried Longan Community Enterprises, 2010). Tambon Makhuea Chae has been the largest producer of golden brown dried longan flesh with altogether 33 community enterprises and 305 ovens (85.7 %), as well as 248 individual members (75.6 %). Particularly, Ban Pa Hiang of this tambon was the most dominant village for having 169 units of drying oven (55.4 %) and 25 dried longan flesh processing community enterprises (45.4 %). However, members of the Cluster of Golden Brown

Dried Longan Community Enterprises commonly faced a multitude of problems. One of the most worrisome aspects has been the processing technology. Longan flesh is generally dried in the conventional-styled oven which uses fuelwood as heating energy. At present, fuelwood becomes relatively scarce and its price has increased from 0.75 baht per kilogram in 2007 to 1.50 – 2.00 baht in 2009 – 2010. Furthermore, fuelwood burning not only creates serious health impacts on people but also causes environmental problems like smoke and carbon dioxide emissions which inevitably will compound the global warming effects. Although an improved version of longan drying oven was designed to use gas as heating energy, it is not popularly adopted because the associated production cost is 3 – 4 times the cost of using the conventional-styled oven. Another problem needs urgent attention is the shortage of labor during longan drying season since the processing of golden brown dried longan flesh demands considerable labor inputs for peeling and pitting activities which must be completed within 24 hours after the arrival of fresh fruits to minimize the weight loss. Lack of working capital is also a main difficulty in doing business, forcing many community enterprises to sell their products as soon as possible although they have to accept the low prices offered by middlemen.

1.3 Research objectives

To answer the above questions, the present research determines to pursue three main objectives:

1) to examine the economic impacts of golden brown dried longan processing community enterprises' operations on local employment and income, as well as their backward and forward linkage implications;

2) to study the environmental impacts of improved technology in terms of drying oven modification on the efficiency of golden brown dried longan processing;

3) to provide policy recommendations for the formulation of community enterprise development plan related to golden brown dried longan processing suitably taking into account the local potentiality and the community's resource, socio-economic, and environmental contexts.

1.4 Expected results

1) The findings on the impacts of community enterprises that process dried longan flesh on employment and income in the local communities, the backward linkage with raw material sources, the forward linkage with related industries, and other production sectors in Tambon Makhuea Cheae in Mueang District of Lamphun Province; the policy impacts of various government measures such as minimum wage, enlargement of village funds, and increased spending by the Municipality Office on local economic conditions.

2) The extent of improved technology impact on production efficiency when improved oven is brought into use in processing golden brown longan flesh; the proof that the improved oven can outperform the conventional-styled oven in terms of efficiency and economic return as the improved technology enables cost saving for fuelwood, labor, and electricity inputs.

3) The policy guidelines for the development of golden brown dried longan processing community enterprises agreeable with the local potentiality and the community's resource, socio-economic, and environmental contexts; the availability

of information and recommendations for the local and central government authorities to make better policy decision for the local development.

4) The use of the research findings, by state policy makers and local government as well as other pertinent government agencies, for application in the study on community enterprises elsewhere so that development and budget plans can be made to assure the well-defined objectives, the transparency, and the efficiency of community enterprises' operations.

1.5 Glossaries

Community enterprise – the community' s business in the production of goods, provision of services or other activities, undertaken by a group of individuals who share common way of making living and thus form themselves to do business together and have their organization registered with the Department of Agriculture Extension as required by the Community Enterprise Promotion Act B.E. 2548 (Office of Small and Medium Enterprises Promotion, 2000).

Peeled golden dried longan: PGDL – longan flesh dried to the color of golden brown.