



The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

**Australian Agricultural and Resource Economics Society
(AARES)**

54th National Conference

Adelaide, Australia

10-12 February 2010

**A framework for assessing impacts of community-based enterprises on
poverty reduction: a case study in northern Thailand**

Nuttamon Teerakul[1], *Renato Andrin Villano*[2], *Fiona Wood*[3], *Stuart Mounter*[4]

[1] Doctoral student, School of Business, Economics, and Public Policy,
University of New England, nteeraku@une.edu.au

[2] PhD, Senior Lecturer, School of Business, Economics, and Public Policy,
University of New England, rvillan2@une.edu.au

[3] PhD, Senior Lecturer, School of Business, Economics, and Public Policy,
University of New England, fwood@une.edu.au

[4] PhD, Lecturer, School of Business, Economics, and Public Policy,
University of New England, smounter@une.edu.au

Corresponding author:
Nuttamon Teerakul
School of Business, Economics and Public Policy
University of New England
Armidale NSW 2351
Email: nteeraku@une.edu.au

A framework for assessing impacts of community-based enterprises on poverty reduction: a case study in northern Thailand

Nuttamon Teeraku^[1], Renato Andrin Villano^[2], Fiona Wood^[3], Stuart Mounter^[4]

Abstract

Poverty alleviation remains a challenge for Thailand's socio-economic development. A key strategy of the Thai government to help meet this challenge at the 'grass roots' level has been the promotion of Community-Based Enterprises (CBEs). And national statistics and descriptive studies have shown that CBEs have led to both income improvement and employment creation. However, poverty is a multi-dimensional concept and also some groups are more adversely affected (such a women) than others. By investigating poverty from a number of different angles, this research aims to assess whether CBES are a genuine tool for poverty reduction at the individual household level.

This paper provides an outline of the framework developed for assessing CBE impact on poverty reduction at the micro level. This approach is a multi-disciplinary approach drawing particularly on three main fields of knowledge: business performance measurement, impact assessment of development projects, and poverty measurement. The approach is divided into two main steps: (1) identification of poverty groups and poverty components, and (2) impact assessment of CBEs and other factors on household poverty. By using this approach, it is expected that not only the impact of CBEs on household poverty can be measured, but also the role and contribution of women in CBEs and possible related benefits can be assessed.

The focus of this research is on investigating the actual impact of CBEs on poverty reduction in northern Thailand. At this stage, no empirical results will be provided, but outcomes of the initial phase of the implementation are discussed. The empirical application is based on a survey conducted using 14 CBEs, 343 households and 12 villages.

Key words: impact assessment, community-based enterprise, poverty reduction, gender empowerment, northern Thailand

^[1] Doctoral student, School of Business, Economics, and Public Policy, University of New England, nteeraku@une.edu.au (presenting author)

^[2] PhD, Senior Lecturer, School of Business, Economics, and Public Policy, University of New England, rvillan2@une.edu.au

^[3] PhD, Senior Lecturer, School of Business, Economics, and Public Policy, University of New England, fwood@une.edu.au

^[4] PhD, Lecturer, School of Business, Economics, and Public Policy, University of New England, smounter@une.edu.au

1. Introduction

It is well documented that the Thai Government has been successful in policy implementation for national socio-economic development and poverty reduction (NESDB 2004; UNDP 2004). Nonetheless, poverty alleviation following the Millennium Development Goal Plus (MDG Plus)¹ target is still a challenge for Thailand (UNDP 2004). CBEs have been a tool that has gained increasing support for stimulating rural development that leads to poverty reduction. However, the actual impacts of CBEs at the micro level are largely unexplored.

This paper focuses on the framework developed for impact assessment for CBEs at the individual household level. Background information to the Thai government policies regarding CBEs and poverty reduction is provided followed by a discussion on the rationale for the multi-dimensional methodology developed to investigate the actual impact of CBEs at the micro level. This is followed by details of the survey design. The experiences and challenges of conducting a field survey in remote regional areas in northern Thailand are also discussed and may be of help to other researchers wishing to conduct similar studies. Finally, the expected outcomes of using the approach are drawn in concluding remarks and then the steps forward are provided.

2. Background and rationale

Poverty alleviation remains a challenge for world development. At present, there are 1.4 billion extremely poor people across the globe (Chen and Ravallion 2008; World Bank 2008). Around 93 percent of the extremely poor live in East Asia, South Asia and Sub-Saharan Africa (Sachs 2005). Since 2000, poverty alleviation has been a primary focus of public policy in all UN member countries in line with the Millennium Development Goals (MDGs). To eradicate poverty, policies, strategies and tools have been designed and implemented by governments, however their efficacy is still debated (Sachs 2005; UNDP 2008).

Poverty has been a problem in terms of system and structure in Thai society for four decades. The population of Thailand is now 64 million. In 2007, the proportion of the poor decreased to 8.48 percent (or 5.4 million) (Figure 1). Eighty-eight percent of the poor live in rural areas (NESDB 2008). Fifty-two percent of the poor live in the Northeast, followed by the North and the South (28% and 9.5 %) respectively.

While the majority of those considered poor are in northeast Thailand, poverty incidence in the region has been steadily decreasing, especially during the last five years. In contrast, during the same period trends of poverty incidence in the North have slightly increased.

The poor in the North have the lowest average income (4,611 baht/household/month) compared with other regions. Surprisingly, the average income of the poor in the

¹ Thailand has achieved many of the Millennium Development Goals (MDGs) and has set new, ambitious targets, which are so-called "MDG Plus", that go beyond the original goals. For poverty alleviation target, MDG Plus aims to reduce poverty to less than 4 percent by 2009.

North is lower than in the Northeast where the most number of poor are located (NESDB 2008).

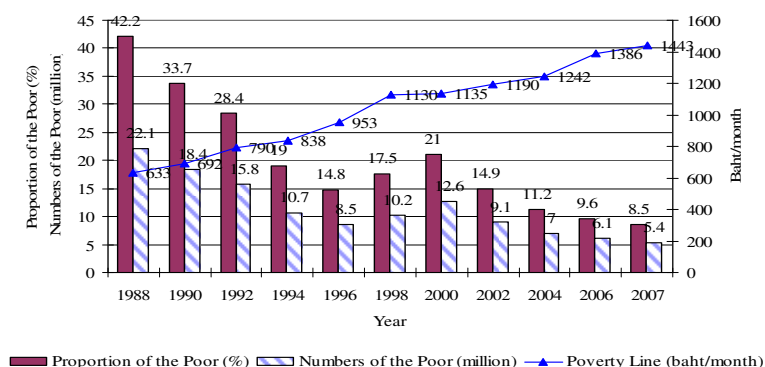


Figure 1: Poverty line, proportion of the poor, and number of the poor in Thailand (based on consumption expenditure) 1988-2007

Source: NESDB (2008)

In Thailand, monetary approach is mainly applied in poverty line estimation following an absolute poverty concept and using the data of income or expenditures of household samples across the country from the national record. The person who is considered to be 'poor' is one who has a monetary and in-kind income of less than the minimum level of daily subsistence, or has an average annual income below the poverty line (NESDB 2004). Computation of a poverty line based on household income or expenditures is a widely accepted measure of poverty. Nonetheless, using income or expenditures data has many difficulties in terms of quality of data, especially in middle- and low-income countries, effects of long recall period on poor households' capability to provide accurate information, difficulty of calculating quantities and values of home-produced foods, underprovided and incomplete information of high-value items, and high cost for advanced statistical data analysis (Sahn and Stifel 2000; Zeller *et al.* 2003).

However, poverty is a multidimensional concept. Therefore, besides income deprivation, other dimensions such as empowerment and social deprivation need to be considered.

In fact, poverty measures based on multi-dimensions such as Human Poverty Index (HPI) and Human Development Index (HDI) have been developed at the global level and can be applied worldwide including Thailand. However, these poverty measures have been applied particularly at the macroeconomic level by using data from the national record. Therefore, the application of poverty measurement at the microeconomic level based on multi-dimensional poverty concept should be considered.

Appropriate candidates for the multi-dimensional poverty impact assessment approach are community based programs such as Community-based enterprises (CBEs). In this regard, CBEs in Thailand will be the focus of our empirical application.

CBEs in Thailand

Since the Ninth National Economic and Social Development Plan (2000-2006), the promotion of CBEs through the One Tambon One Product (OTOP) project has been implemented as an important grass-roots economic development tool for increasing the potential and roles of rural communities in poverty reduction.

The term 'Community-based enterprise: CBE', in this study, is defined as the business/enterprise owned and dominated by a group of people, particularly women, in a community². The enterprises mainly engage in food processing, handicraft production and agricultural production. Benefits from the enterprise's ownership are provided to promote the enterprise's objectives or to broader community benefit, rather than to individuals. A profitable community-based enterprise can promote sustainability and further develop its objectives.

There are a total of 59,195 community-based enterprises across Thailand (Secretariat Office of Community Enterprise Promotion Board 2005). The North is the important source of CBEs, not only in terms of number of CBEs but also diversity of products (Figure 2 and 3). Almost half of the CBEs produce agricultural products. Approximately 23 percent and 19 percent of the CBEs produce handicraft products and food processing products respectively (Secretariat Office of Community Enterprise Promotion Board 2005). Besides these main types there are other products such as machinery and agricultural input products.

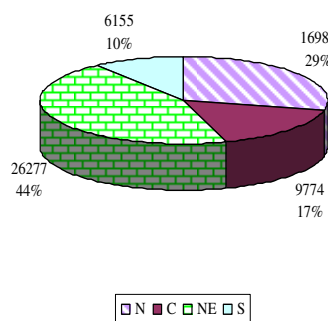


Figure 2: Number of CBEs in Thailand categorized by region 2005

Source: Modified from Secretariat Office of Community Enterprise Promotion Board (2005)

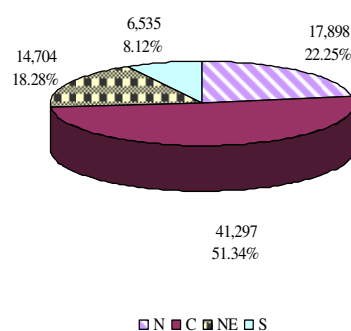


Figure 3: Number and proportion of CBEs products in Thailand categorized by region

Source: Modified from ThaiTambon (2008)

The important role of CBEs in rural development in Thailand is supported by both statistical information and published research.

² In this study 'community' is defined as a geographical location where people have joined together to respond to the social and economic needs of a particular community or solve problems in the community.

The promotion of CBEs through the One Tambon One Product (OTOP) project has become a gear to strengthen communities and enable them to reduce poverty. It can be seen that around 37,000 villages across the country have benefited from the OTOP project (Kittisataporn 2006). In 2005, the OTOP export values were US\$ 980 million approximately, an increase of 11 percent compared with the same period in 2004 (Purnariksha 2006). Over the same five year period of time, while the CBEs were robustly promoting, Thailand was successful in MDGs poverty elimination target achievement. It can be seen that 9.55 percent of the Thai population (or 6.1 million) were deemed to be living below the national poverty line (1,386 baht/person/month) in 2006, the last year of the Ninth Plan, that rapidly decreased from 20.98 percent (or 12.6 million) in 2000 and was lower than the Ninth Plan's poverty reduction target (12% by 2006) (NESDB 2007). However, coincidence does not necessarily mean causation.

As well as statistical information, previous descriptive studies indicate that CBEs are an important source of supplementary income for local people, and also create jobs and increase the employment in the community (Nakanishi *et al.* 1999; Sriboonchitta *et al.* 2000; Jantradech *et al.* 2003).

Supported by official statistics and descriptive studies of CBE income generation, CBEs have been considered to be a significant grass-roots initiative for reducing poverty. But it is important to note that the focus has been at the aggregate level of the CBE using essentially a one dimensional approach. Therefore the question as to whether poverty reduction is uniform across CBEs and as such a genuine tool for poverty alleviation, needs to be addressed. And the most appropriate way of doing this is through a multi-dimensional approach which allows for individual variation at the household level to be explored along with the performance of the CBE at the aggregate level. It is only then that a proper picture of the real role of CBEs in poverty reduction can be attained. Also it is well established that women are at greater risk of poverty than men (Alcock 2006). However, the economic activities that are performed by CBEs are largely conducted by women. The approach taken by this study also allows for the investigation of CBEs as a potential gender empowerment tool.

3. CBEs-poverty impact assessment approach

The specific questions of this paper are: 1) how can the impacts of CBEs on poverty reduction be measured? 2) Are there specific benefits for women from being involved in CBEs? And 3) how can poverty dimensions be measured at the microeconomic level? To address these questions, this study employs a modified 'CBEs-poverty impact assessment approach' based on existing approaches of business performance measurement, impact assessment of development projects, and poverty measurement, which are practical for CBEs. Normally, poverty measurement methods and impact assessment methods are applied separately based on the purpose of study. In this study, these two methods are reconciled and discussed below. The approach consists of two main steps: (1) identification of poverty groups and poverty components, and (2) impact assessment of CBEs and other factors on household poverty (Figure 4).

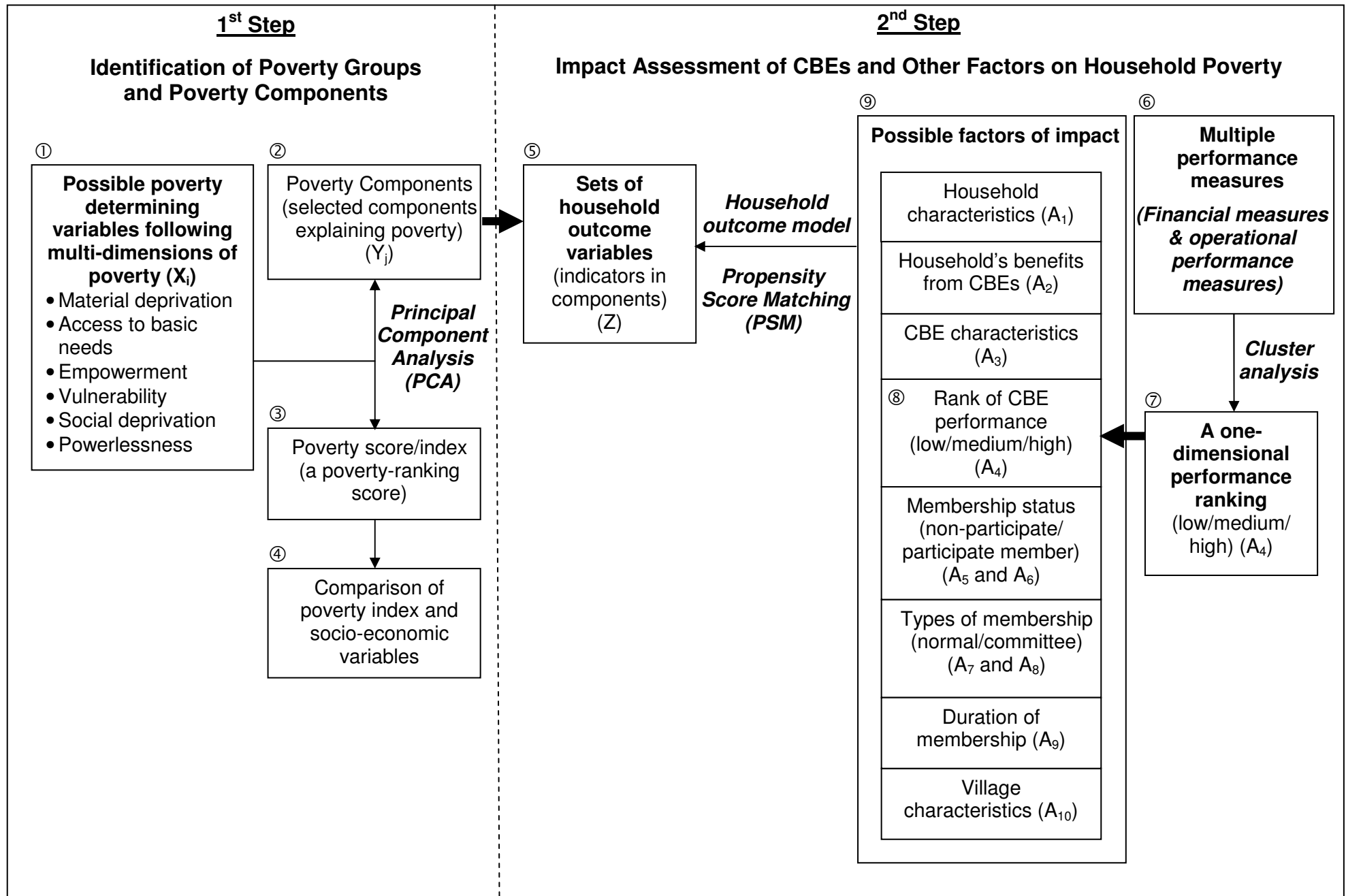


Figure 4 CBEs-Poverty Impact Assessment Approach

1st Step: Identification of poverty groups and poverty components

Poverty is multi-dimensional, so household poverty can be affected by a range of factors. Moreover, the characteristics of poverty in different geographical areas are different because of different socio-economic conditions. Therefore, this study applied the Principal Component Analysis (PCA) method to select the most appropriate weighted indicator components which are unique to the area surveyed and can reflect the local conditions explaining poverty. This method is selected because of its advantages compared with other poverty assessment methods, including computation of a poverty line based on household expenditures, rapid appraisal (RA) and participatory appraisal (PA) methods, and constructing a poverty index based on a range of indicators. Advantages and disadvantages of the PCA method are demonstrated in Table 1.

On the basis of applying the PCA method, each component is formed as a unique index (i.e. they have no correlation with each other) founded on the values of all indicators. The main idea is to construct a new variable Y_j which is the linear combination of the original indicators (X_i). Therefore Y_j accounts for the maximum of the total variance in X_i (Basilevsky 1994).

Let the original set of variables measured on households (possible factors) be denoted by $x = (X_1, X_2, \dots, X_n)'$. The purpose of PCA method is to derive the new set of variables: $y = (Y_1, Y_2, \dots, Y_p)'$ (Cox 2005). The new variables are:

linear combinations of the original variables;

$$Y_j = a_{1j}X_1 + a_{2j}X_2 + \dots + a_{nj}X_n \quad (j = 1, \dots, p); (i = 1, \dots, n) \quad (1)$$

uncorrelated with each other;

$$\text{corr}(Y_j, Y_k) = 0 \quad (j \neq k) \quad (2)$$

And just a few of them will explain most of the variation in the data; therefore this method can effectively reduce the number of dimensions. The Y_j 's are labeled, so

$$\text{var}(Y_1) \geq \text{var}(Y_2) \geq \dots \geq \text{var}(Y_p) \quad (3)$$

Where a_i is the computed weights that indicate the relative contribution of each indicator to the overall poverty component.

Table 1: Advantages and Disadvantages of the PCA method

| | |
|----------------------|---|
| Advantages | <ol style="list-style-type: none"> 1. PCA can identify and weight the most important indicators in order to calculate an aggregate index of relative poverty for a specific sample household. 2. PCA allows adjusting weights for each situation based on the specific poverty context existing therein. 3. Relative poverty comparisons can be made between households under the umbrella of development projects and households that do not receive any services from the development projects. 4. The poverty component can be easily identified by analysing the signs and size of the indicators relative to the new component variable. 5. PCA identifies and/or constructs a small set of indicators that are powerful descriptors of poverty. 6. PCA is applicable across relatively diverse socio-economic settings. 7. The information on indicators can be collected quickly and inexpensively. 8. PCA allows certain ranking of households by their relative poverty levels. 9. While the traditional methods based on income and consumption expenditure face several measurement problems, namely recall bias, seasonality and data collection time, PCA does not have these problems. |
| Disadvantages | PCA does not provide information on absolute poverty ^{1/} . |

Source: Modified from Zeller *et al.* (2003)

Note: 1/ However, poverty is a relative concept, and the PCA method aims to measure relative poverty. Moreover, many summary measures used in development policy to measure absolute poverty are essentially quite arbitrary and the merits of using such measures are not clear in many cases. In addition, measuring absolute poverty based on the poverty line and the basic needs concepts faces problems involved with the definition of the representative basket of basic needs in a country.

Possible poverty determining variables (X_i) are compiled from many studies, such as Coleman (1999; 2002), Kabeer and Nojonen (2005), Montgomery (2006). The factors can be divided into six dimensions following a multi-dimensional poverty concept (Table 2).

Sets of indicators in each poverty component derived from the first step will be used as dependent variables in the household outcome model in the second step (Figure 4). Besides poverty components, this study uses the PCA method to construct a poverty index for identifying household poverty status. Moreover, household poverty status is compared to socio-economic variables in order to examine the household characteristics of the poor.

Table 2: Possible poverty determining variables

| Material deprivation | Access to basic needs | Empowerment | Vulnerability | Social deprivation | Powerlessness |
|--|--|--|--|---|--|
| <ul style="list-style-type: none"> • Farm and non-farm income • Expenditures • Consumption • Saving • Loans • Assets | <ul style="list-style-type: none"> • Health • Education • Shelter | <ul style="list-style-type: none"> • Control over household assets • Role in household expenditure decisions • Work-time allocation • Control over minor finances • Control over major finances and division of domestic chores | <ul style="list-style-type: none"> • Livelihood diversification • Entrepreneurial behaviour • Investment in and access to social capital • Food security | <ul style="list-style-type: none"> • Community participations • Violence of conflict • Collective effort | <ul style="list-style-type: none"> • Having a voice and right in community activities |

2nd Step: Impact assessment of CBEs and other factors on household poverty

In this step, the impact of CBEs and other factors on household poverty is assessed by using the Propensity Score Matching (PSM) method and household outcome model.

(1) Methods of poverty impact assessment for CBEs

The existing methods of impact assessment are selected based on strengths and weaknesses of each method, the ability to achieve impact assessment objectives, CBEs context, and the constraints of costs, human resources and timing (Hulme 2000; Oldsman and Halberg 2002)

Considering the cost and time of an experimental design with a random assignment method, the difficulties of maintaining experimental conditions, particularly in CBEs which are micro-enterprises; the problem with the non-experiment with reflexive controls method in terms of the possibility to distinguish between project and non-project effects; and also the weaknesses of a participant judgment and expert opinion method in terms of causal inference and expertise requirement, a quasi-experimental design with constructed controls method becomes to the most suitable method for this study. The advantages and disadvantages of a quasi-experimental design method are shown in Table 3.

This study decided to use the PSM method to cope with the selectivity bias from using a quasi-experimental design and also to identify the impacts of CBE membership (members or non-members) on a number of household outcome variables. The PSM method can be extremely useful for cross-sectional survey data (Dehejia and Wahba 2002) and can decrease bias notably in observational studies (Setboonsarng and Parpiev 2008).

Table 3: Advantages and disadvantages of a quasi-experimental design with constructed controls method

| | |
|----------------------|--|
| Advantages | <ol style="list-style-type: none"> 1. This method is used when experimental design is not pragmatic. 2. This method is less intensive in its data requirements and already widely used. |
| Disadvantages | There are some difficulties for the practical implementation of impact evaluations based on control groups, covering sample selection bias, misspecification of underlying relationships, and motivational problems. |

Source: Modified from Oldsman and Halberg (2002) and Mosley (2000)

The estimated propensity scores are used to match a participant from the treatment group with a participant from the control group, therefore the treatment group and control group can be balanced. A significant characteristic of this method is that after some part of the participants are matched, the unmatched participants are abandoned and not directly employed in the treatment impact estimation. Using OLS and Logit estimation without correcting for selectivity bias causes an overestimation of the impacts, while using the PSM technique provides accurate results (Setboonsarng and Parpiev 2008).

The impacts of other proposed factors of household poverty on household outcome variables can be identified by using the household outcome model. The household outcome variables are derived from the selected poverty components obtained from the first step (see Figure 4). The household outcomes equation developed from Coleman (1999; 2002) and Kondo *et al.* (2008) can be written as a general functional form:

$$Z = f(A_1, A_2, \dots, A_{10}) \quad (4)$$

Where Z is a vector of household outcome based on the selected poverty components.

A_1 to A_{10} are sets of variables that possibly affect household outcomes. Details of the variables are provided in Table 4.

These possible factors are expected to affect household outcome (or household status) in different ways. The guiding hypotheses can be drawn as the following.

1. Household outcome is affected by household's characteristics.
2. Household outcome is positively affected by household's benefits from CBEs.
 - a. Household that benefits from the CBE is expected to have higher household outcome compared with non-benefit household.
 - b. The value of benefits, both monetary and in-kind benefits, earned from the CBE has positive impact on household outcome.
3. Household's characteristics have an impact on household outcome.
4. CBE performance has a positive impact on household outcome. Being the member of higher-ranking CBE provides higher household outcome (better household status) and vice-versa.

5. CBE membership status affects household outcome. The household that has a member who participates in the CBE is expected to have higher household outcome compared with non-CBE participate household.
6. Types of CBE membership have an impact on household outcome. Being a committee member of CBE is expected to have higher household outcome compared with being a normal member.
7. Household outcome is affected by being a member of CBE. The household that has a member of CBE is expected to have higher household outcome compared with non-member household.
8. Duration of CBE membership has a positive impact on household outcome.
9. Household outcome is affected by village's characteristics.

The nature of the dependent variables (household outcome variables) leads to adequate identification of the form of function, which can be in linear or non-linear form. Each of the different types of dependent variables requires different estimation techniques.

Table 4: Variables used in household outcomes equation

| Variables | Meaning |
|-----------------|--|
| Z | a vector of household outcome (based on the selected poverty components derived from the first step) |
| A ₁ | a vector of household's characteristics |
| A ₂ | a vector of household's benefits from CBEs |
| A ₃ | a vector of CBE characteristics |
| A ₄ | a vector of CBE performance (derived from multiple performance measures and cluster analysis) |
| A ₅ | a dummy variable equal to 1 if the household has a non-participating member of a CBE and 0 otherwise |
| A ₆ | a dummy variable equal to 1 if the household has a participate member of a CBE and 0 otherwise; |
| | A ₅ = A ₆ = 0 if nobody in the household is the member of a CBE |
| A ₇ | is a dummy variable equal to 1 if the household has a regular member of a CBE and 0 otherwise |
| A ₈ | a dummy variable equal to 1 if the household has a committee member of a CBE and 0 otherwise; |
| | A ₇ = A ₈ = 0 if nobody in the household is the member of a CBE |
| A ₉ | a vector of duration of membership (years) |
| A ₁₀ | a vector of village's characteristics |

Note: A₂, A₃, A₄, A₅, A₆ are the initiative variables of this study

Significantly, in order to achieve the specific impact assessment objective of this study, this household outcome model is modified from Coleman (1999; 2002) and Kondo *et al.* (2008) by including variables that are related to CBEs and possibly affect household poverty. The independent variables: household characteristics,

types of membership and duration of membership are applied from those previous studies, whereas household's benefits from CBEs, CBEs characteristics, rank of CBE performance and membership status variables are an initiative of this study to investigate the impacts of CBEs on household poverty. Moreover, village characteristic variable is modified by defining this variable as a vector of a village's characteristics, not village dummy variables determined in those studies, in order to examine the impacts of communities on household poverty.

(2) CBE performance measurement and ranking

In this study, rank of CBEs' performance is determined as one of the proposed factors of impact (A_4) in the household outcome model in order to find out whether CBEs' performance affects household poverty (Table 4 and Figure 4).

Normally, data for financial measures are confidential and difficult to collect from respondents particularly small firms (Covin and Slevin 1989). Moreover, most of the performance measures are appropriate and practical for large businesses rather than small firms (Alasadi and Abdelrahim 2007). Considering this limitation, this study uses multiple performance indicators to measure business performance of CBEs because operational performance measures can provide performance data when financial ratios may either not be available, or may be improper (Venkatraman and Ramanujam 1986).

Multiple performance measures of CBEs are selected based on availability of data gathered from the CBEs, the nature of CBEs, and the review of literature (Table 5). Each operational performance is measured by a self-rating scale. The respondents are asked to identify their satisfaction with each item using a five-point Likert scale ranging from strongly dissatisfied (1) to strongly satisfied (5).

Table 5: Proposed multiple performance measures of CBEs

| Component | Measures |
|-------------------------|--|
| Financial performance | revenues, return on sales, gross profit margin, net profit margin, return on investment (ROI), return on equity (ROE), return on assets (ROA), number of permanent labourers, and net working capital |
| Operational performance | product quality, product diversity, product identity, product design, production technology development, customer satisfaction, on-time delivery, members' satisfaction, member training, CBE reputation, creating jobs in communities, increase of income for members' household, social welfare for community members, environmental recognition, strong community creation, nurturing of local wisdom, and creating unity among the community members |

The proposed business performance measures mentioned above are ranked by using cluster analysis. Cluster analysis is applied in this study not only because of its utilization in many fields of study, but also because there is no rule of thumb of sample size used in this method (Dolnicar 2003). Therefore this method is practicable with a small sample size of CBEs in this study. By using cluster analysis, CBEs are categorized into different levels (high/low/medium) based on their business

performance. This performance ranking will be used as one of the dependent variables or proposed factors of poverty impact in the household outcome model (Figure 4).

In this second step, in order to find out roles and contributions of women in the CBEs, case study analysis will be applied.

This study is still in progress. The data collection has been completed and data are currently being prepared for analysis. The next stage will be the preparation of reports based on the statistical analysis as well as qualitative data. What we want to share in this paper are details regarding the survey design and also the experiences of conducting the field survey work in northern Thailand. This discussion should provide a useful reference base for others interested in conducting studies related to CBEs and the poverty of rural households.

4. Study Area and Survey Design

Considering the limitation of availability and accuracy of data gathered from recall of the respondents, this study employs a one-time survey (no based-line data). Field surveys were conducted in 12 villages located in three provinces of northern Thailand. The data were collected from 343 households and 14 CBEs.

4.1 Study area

Based on poverty and CBEs profiles, and also main features of the area, northern Thailand was chosen for this study. The North not only has the second largest number of the poor (28% of the poor) (Figure 5), but also has a slightly increasing trend of poverty incidence. Moreover, the poor households living in the North have the lowest average income compared with those in other regions (Figure 6). Regarding CBEs profile, this region has the second highest number of CBEs and also richness of product diversity (Figure 2 and 3). In view of main features, this region is a major source of agricultural products that can be used as raw materials for the CBEs, such as rice, longan and garlic (OAE 2008). It is also a large source of handicraft products because of its prosperous history and the various minorities and cultures of the area.

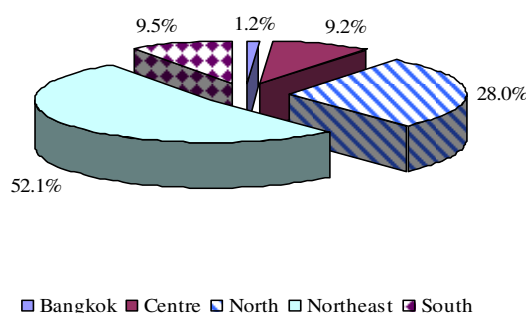


Figure 5: Distribution of the poor in Thailand categorized by region 2007

Source: NESDB (2008)

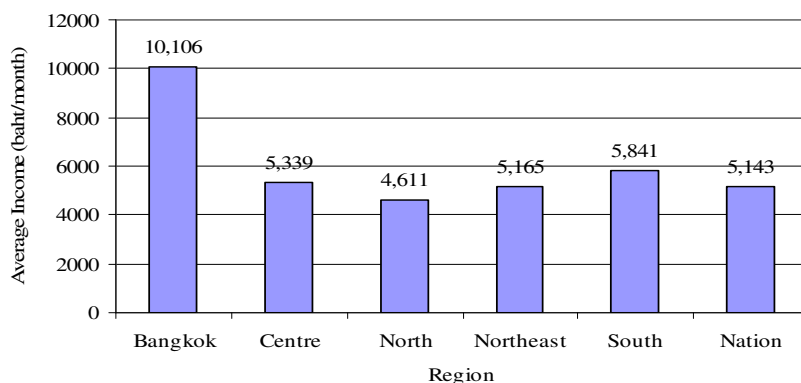


Figure 6: Average incomes of the poor in Thailand categorized by region 2007

Source: Modified from NESDB (2008)

This study selected Chiang Mai, Lam Phun, and Chiang Rai provinces in the North as study sites following the same criteria as selecting the North. These provinces are the centre of economic development in northern Thailand as can be seen from their economic indexes such as the Gross Province Products (GPP), average personal income, and so on. However, a poverty situation has occurred in some areas across the provinces. Notably, Chiang Mai and Chiang Rai have the largest number of poor villages. In 2005, the Community Development Department ranked Chiang Mai as having the largest number of poor villages (545 villages) followed by Chiang Rai (475 villages) (Boonyarattanasoontorn 2006).

In view of CBEs profile, these provinces are a major source of CBEs. The largest number of CBEs is in Chiang Rai, followed by Chiang Mai (Figure 7). Chiang Mai has been the main promoter of the OTOP project in the North. The sales value of OTOP in Chiang Mai has increased continuously. In 2008, Chiang Mai had an OTOP sales value of about 3,082 million baht which has increased 1.65 times in the last five years (Chiang Mai Provincial Operation Center 2009). For Lam Phun, although it has smaller numbers of CBEs than many provinces in the North, this province has a high density of CBEs because it is the smallest province in relation to others.

According to main features, these provinces are the main source of agricultural products that support the CBEs in terms of raw materials for food processing activities, and also the valuable source of handicraft based on their prosperous history and the various minorities and cultures. These provinces are rich in history as can be seen that Lam Phun is the oldest province of northern Thailand (1,343 years), followed by Chiang Rai and Chiang Mai respectively. Besides the long history, there are thirteen minority groups living in upland and highland areas in these provinces. Being a minority group is one of the characteristics that possibly relates to household poverty status in these areas (see also Sricharoen and Buchenrieder 2005). Thus, these study sites are also interesting in terms of poverty comparison between different ethnic groups.

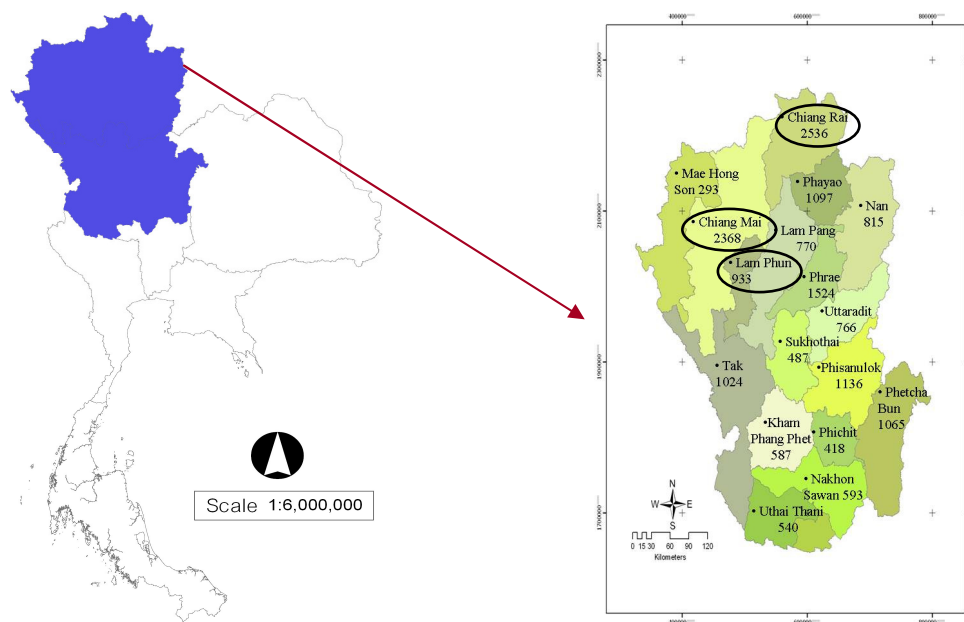


Figure 7: Distribution of CBEs in Northern Thailand

Source: Modified from Secretariat Office of Community Enterprise Promotion Board (2005)

4.2 Sampling procedures

This study used random sampling based on criteria to select samples of CBEs, villages and households. Because food processing and handicraft production activities are mainly undertaken by women and cover 42 percent of the CBEs in Thailand, only the food processing CBEs and handicraft CBEs are considered in this study. Another criterion for selecting CBEs is business performance because the difference in performance is assumed to affect the difference in poverty impact. Consequently, sale revenues, experience in business and the size of the business in terms of number of members that can be observed during the preliminary survey are taken into account. According to these criteria, this study selected eight handicraft women groups and six food-processing women groups as case studies. Background characteristics of the CBEs used as the criteria for sample selection are shown in Table 6.

The main criterion used to select the village sample is the personal income of the villagers (Table 7). There are 12 villages selected in this study. In these villages, ten villages had one CBE each, while two villages had two CBEs each. Consequently, not only the CBEs can be compared between the villages, but also the CBEs located in the same village can be compared. Another criterion is whether or not the village mainly consists of a minority group. The villagers in nine selected villages (ten selected CBEs) are northern native Thai, while others in three selected villages (four selected CBEs) are minority hill-tribe.

Table 6: Criteria for selecting CBEs

| Criteria | No. of case studies (N=14) | Criteria | No. of case studies (N=14) |
|--------------------------|----------------------------|---------------------------|----------------------------|
| Main activity | | Sale revenues (baht/year) | |
| • Food processing | 6 | ≤ 100,000 | 2 |
| • Handicraft production | 8 | 100,001-500,000 | 7 |
| | | 500,001-1,000,000 | 2 |
| | | > 1,000,000 | 3 |
| No. of members (persons) | | Experience (years) | |
| ≤ 20 | 4 | ≤ 5 | 2 |
| 21-50 | 6 | 6-10 | 5 |
| 51-100 | 3 | 11-15 | 3 |
| > 100 | 1 | > 15 | 4 |

Table 7: Criteria for selecting villages

| Criteria | No. of villages (N=12) | Criteria | No. of villages (N=12) |
|-------------------------------------|------------------------|----------------------------|------------------------|
| Personal income (baht/person/month) | | minority group/native Thai | |
| ≤ 2,500 | 4 | • Northern native Thai | 9 |
| 2,501-5,000 | 5 | • Minority hill-tribe | 3 |
| 5,001-7,500 | 3 | | |

After the selection of the CBEs and the villages, the samples of households were chosen based on membership status. The samples cover 140 participated members, 63 non-participated members, and 140 non-members.

The survey was carried out by using three forms of interview schedule. The first form is for gathering the data of village characteristics from the village heads. These data cover general information about the village head, infrastructure in the village, socio-economic conditions, social capital, perception of the role of the CBE in members' households and the village, and perception of development of four basic capitals (social capital, financial capital, human capital and natural capital) in the village.

The in-depth interview was undertaken with CBEs by using the second form. In each case study, the CBE head was a main respondent. In case the CBE head was not available to respond, other committees who normally participate and administrate in CBEs activities were interviewed on behalf of the CBE head. These data consist of general characteristics of the CBE, general information of the CBE head, information of business management, perception of business strategies, perception of development of four basic capitals, and perception of good governance of the CBE.

The third form was used for collecting the data of characteristics and poverty condition of households. Almost all of the respondents were women, while a few respondents were men who were the CBE members. Most of the women were housewives, whereas the rest were the household heads or the members who mainly

support their family. These data cover characteristics of the respondents and households, material deprivation situation of the households, access to basic needs, food security, women's empowerment, perception of the role of the CBE in the household and village, duration of membership, perception of leadership characteristics and capacities of the CBE head and the village head, perception of community participation, and perception of benefits earned from participation in the CBE.

5. Initial Results, Observations and Challenges

In social science research, when conducting a field survey different obstacles can affect the survey procedures in different ways and degrees. Challenges in a field survey stage can affect other stages, covering data entry, data analysis and implication of the study. The flexibility of survey management is a significant factor in the control and success of the survey, therefore flexible survey management benefits the research project in terms of cost and time saving and quality of data. Despite having experience of handling field surveys and working with the CBEs and rural households in Thailand, survey obstacles remain in this study. However, experiences from previous research can result in more effective resolutions. Therefore, to assist in further studies related to CBEs and poverty of rural households in other geographic areas, the experiences from the field survey in this study will be expressed.

Based on the initial phase of project implementation, the challenges of research surveys can be divided into two stages including survey planning and survey process.

5.1 Challenges in survey planning

In the initial stage, there are various factors that are considered in the design of the survey, such as geographical locations of village and weather conditions, cost, time, finance, and personal risks. Modifications may need to be made to the initial plan because of such concerns. However, the change must not affect specifications of the samples, objectives of the study, and methods of analysis.

Study site selection is an example of one area where circumstances required that modifications to the initial survey design be made. Initially, this study planned to conduct field surveys in the villages located in Mae Hong Son and Nan provinces which are among the top five provinces having the highest proportion of poor (NESDB 2008). However, the proposed villages are located in remote areas which are very difficult to access, particularly in the rainy season. Because of road and weather conditions, cost and time limitations, and also personal risks in terms of driving and working safely, this study chose the villages in Chiang Mai, Chiang Rai, and Lam Phun as the study sites. Although these provinces are more developed provinces compared with others in northern Thailand, some areas within the provinces are not doing well economically. Moreover, Chiang Mai has been the main promoter of the OTOP project in the North and Chiang Rai has the largest number of CBEs. Based on these reasons along with the difficulties mentioned above, these three provinces were selected instead of those initially planned. Regarding the change, the specifications of the samples of households, CBEs, and villages remain the same as those in the initial plan and also correspond to objectives of the study and methods of analysis.

5.2 Challenges in survey process

The survey process is often beset by a number of challenges. These range from finding and recruiting appropriately qualified enumerators to dealing with the many logistics of conducting the actual field surveys themselves in the designated villages.

5.2.1 Sufficient enumerator training

Quality and quantity of enumerators can affect time and cost in field surveys and particularly quality of data. Providing enough training for enumerators is very important for survey preparation, specifically in the in-depth interview.

In this study, brief information and objectives of the study were described to the enumerators before the actual survey. The interview schedule for households was also deeply explained to the enumerators, and then they did pre-surveys which provided them with learning exercise and made them feel familiar with the interview schedule. After that any concerns about the questionnaire were discussed for getting ready to do the actual survey.

Based on this experience, the significant points that need to be considered for survey preparation are: (1) giving sufficient training to enumerators, especially in a sensitive questioning technique and communication technique is essential, in particular for in-depth interviews about living conditions. This process will add to the budget and time to finish the survey, but more complete data will be collected and less time will be spent on cleaning the data. (2) The important factors of selecting the enumerators are their attention in and understanding of the research project, experience in doing field surveys at farm or household level, background knowledge of socio-science, and personality. Survey experience and knowledge of the enumerators can ensure the good results of training and fieldwork. And (3) good preparation of enumerator recruitment needs to be done in order to achieve a sufficient number of enumerators who meet the requirements.

5.2.2 Availability and accuracy of data

Availability and accuracy of data have to be noticed at the early stage of the survey in order to find out an adequate solution. It can affect methods of analysis. However, in case methods of analysis need to be changed according to this constraint, the effect of the change on the objectives of the study and also on the questions obtained in questionnaires need to be considered.

For example, at the beginning, this research planned to measure business performance of the CBEs by using financial measures only. However, there are some difficulties that affect the availability and accuracy of financial information. On the one hand, some CBEs have never kept detailed accounts while others have been doing them incompletely, so the accuracy of the information gathered from their memory needs to be a matter of concern. On the other hand, several CBEs have been doing appropriate accounting but they were uncomfortable to disclose their financial information. According to the constraint, multiple business performance measures are applied to analyse performance of the CBEs.

5.2.3 Data accessibility

Ability to access data is very significant for gathering quality data. The ability depends on several factors including interview methods, communication skills, data

collection methods, linguistic difficulties and respondents' trust. An example of these factors can be seen from this study.

Interview methods, communication skill and data collection methods

In this study, some respondents could not clearly understand some questions and therefore found it difficult to provide the information requested. This situation occurred primarily because of illiteracy, especially in minority households and where the heads of households were elderly. However, other factors should be considered including inadequate methods of questioning by the enumerators and deficient communication skills of both interviewers and respondents. Moreover, others methods of survey, such as participatory appraisal (PA), role play, and so on might be introduced in some stages for getting inside their perception and encouraging them to express their perceptions.

Linguistic challenges

Using a different language is a significant obstacle in communication between the interviewers and the respondents, particularly in minority groups. From the experience in this study, the enumerators face a difficulty of communication with many respondents who are minority and comfortable with only their own language. This problem was reduced by using local translators. However, the problem could not be absolutely overcome because some villages had more than one minority group and their languages are not always the same.

Gaining Trust of respondents

In this study, the respondents' trust in the research team was taken into account since the pre-survey. Before the actual survey was conducted in each village, the CBE head and committees and also the village head were contacted by the researcher. Brief information about the research project and its objectives was provided to them. After they agreed to participate in the research, they facilitated access to the respondents at the household level. Therefore, the households were willing to participate without any concerns. Normally, referring to the local government officer who recommended the selection of their village and CBEs was another way to increase their trust in the research team. However, during an interview process some respondents possibly felt uncomfortable to answer some questions and were reluctant to answer. To respond to this concern, the researcher carefully explained the reason for the questions to them and also assured them that their answers would be confidential. Moreover, the results would not refer to them personally.

6. Concluding remarks and steps forward

This paper has detailed the framework and methodology developed to investigate the roles of CBEs in poverty alleviation at the micro level. This 'CBEs-poverty impact assessment approach' is a modified procedure for assessing impacts of CBEs on household poverty, designed on the basis of selected existing approaches which are pragmatic for CBEs, including business performance measurement, impact assessment of development projects, and poverty measurement. This multi-disciplinary approach is divided into two main steps: (1) identification of poverty

groups and poverty components, and (2) impact assessment of CBEs and other factors on household poverty.

It can be seen that, in this approach, different methodologies are combined in order to achieve the impact assessment objectives of this study. Consideration has been given to the advantages and disadvantages of methodologies, CBE context, the nature of the respondents, particularly in terms of data availability and accuracy, multi-dimensional poverty concept and also the limitations of cost and time. Therefore, this approach is specifically designed for assessing the impact of CBEs on household poverty based on a multi-dimensional poverty concept.

The cleaning and preparing of the fieldwork data for analysis is complex and time consuming and at this stage we do not have preliminary results we can share with you. Nonetheless, it is expected that the research will directly contribute to the following areas:

1. in the design of well-targeted and efficient poverty reduction policies. By using the PCA method, the analysis will provide significant factors explaining household poverty in northern Thailand. The socio-economic conditions of poor households in the study area will also be examined. Moreover, the status of rural household poverty can be compared between CBE member households and non-CBE member households living in the same study area. Therefore, it is anticipated that the poverty outreach performance of the CBEs that have policy implications will be assessed in this step.
2. By using the PSM method along with the household outcome model, it should be possible to determine whether women are benefiting directly from their roles within the CBEs. Given that women are 'the poorest of the poor' the analysis should show whether CBEs are genuine capacity builders across all members or whether, for example, the benefits are confined.
3. The realities and challenges in conducting the sort of fieldwork discussed in this paper should also **be of assistance to others wishing to undertake similar studies in related geographic areas, particularly in terms of the strategies developed to deal with the problems.**

Finally, the results of the statistical analyses are expected to make a direct contribution to policy considerations regarding the most effective use of CBEs in capacity building in developing countries.

7. References

- Alasadi, R., and Abdelrahim, A. (2007). Critical analysis and modeling of small business performance (case study: Syria), *Journal of Asia Entrepreneurship and Sustainability* 3(2): 1-22.
- Alcock, P. (2006). *Understanding poverty*. Palgrave Macmillan, Basingstoke.
- Basilevsky, A. (1994). *Statistical factor analysis and related methods*. John Willey and Sons, New York.
- Boonyarattanasoontorn, J. (2006). Do poverty alleviation policies contribute to the welfare of poor people in rural communities?: a case study of six villages in Chiang Rai province, *Thammasat Review* 11: 87-114.

- Chen, S., and Ravallion, M. (2008). The developing world is poorer than we thought, but no less successful in the fight against poverty, *Policy Research Working Paper 4703*. Development Research Group, World Bank.
- Chiang Mai Provincial Operation Center (2009). Monthly sale values of OTOP products year 2004-2008, (Serial online). Available from URL: <http://www.chiangmaipoc.net/pocdb/db23.php> [accessed 20 December 2009].
- Coleman, B.E. (1999). The impact of group lending in Northeast Thailand, *Journal of Development Economics* 60: 105-141.
- Coleman, B.E. (2002). Microfinance in Northeast Thailand: Who benefits and how much?, *ERD Working Paper No.9*. Asian Development Bank.
- Covin, J.G., and Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments, *Strategic Management Journal* 10: 75-87.
- Cox, T.F. (2005). *An introduction to multivariate data analysis*. Oxford University Press, New York.
- Dehejia, R.H., and Wahba, S. (2002). Propensity Score-Matching methods for nonexperimental causal studies., *Review of Economics and Statistics* 84 (1): 151-161.
- Dolnicar, S. (2003). Using cluster analysis for market segmentation-typical misconceptions, established methodological weaknesses and some recommendations for improvement, *Australasian Journal of Market Research* 11(2): 5-12.
- Hulme, D. (2000). Impact assessment methodologies for microfinance: theory, experience and better practice, *World Development* 28 (1): 79-98.
- Jantradech, T. (2003). Roles of community business for poverty alleviation in rural areas of northern Thailand, Master of Arts (Political Economy), Chiang Mai University, Chiang Mai.
- Kabeer, N., and Noponen, H. (2005). Social and economic impacts of PRADAN's Self Help Group Microfinance and Livelihoods Promotion Program Analysis from Jharkhand, India, *Imp-Act Working Paper No.11*. The Institute of Development Studies, the University of Sussex.
- Kittisataporn, K. (2006). The well balanced development of regional economy through the OVOP movement, *Oita Conference, One Village One Product International Seminar*, Millennium Hall, Ritsumeikan Asia Pacific University, Beppu City, Oita.
- Kondo, T., Orbeta Jr., A., Dingcong, C., and Infantado, C. (2008). Impact of microfinance on rural households in the Philippines, *Discussion Paper Series No. 2008-05*. Philippine Institute for Development Studies.
- Montgomery, H. (2006). Serving the poorest of the poor: The poverty impact of the Khushhali Bank's microfinance lending in Pakistan. in Weiss, J., and Khan, H. (ed.), *Poverty Strategies in Asia*. Asia Development Bank Institute.
- Mosley, P. (2000). The use of control groups in impact assessment for microfinance, *Working Paper No. 19*. Social Financial Unit, Enterprise and Cooperative Development Department, International Labour Office, Geneva.
- Nakanishi, H., Harter, A., Soedarsono, B., Akmal, D.I., Sufianti, E., Chairani, E., Yoshida, S., Narita, M., Kimura, M., and Nishiyama, T. (1999). Poverty solving projects by housewives groups, *Working Paper*. Nagoya University, Nagoya.
- NESDB (2004). Report on Millennium Development Goals 1-7, *Thailand Millennium Development Goals Report 2004*. NESDB, Bangkok.
- NESDB (2007). Datum of poverty in 2006. Community Economic Development and Income Distribution Office, Office of the National Economic and Social Development Board.
- NESDB (2008). Poverty assessment report 2007. Social Data-based and Indicator Development Office, NESDB, Bangkok.

- OAE (2008). Agricultural statistics of Thailand yearbook 2007. Ministry of Agriculture and Cooperative, Bangkok.
- Oldsman, E., and Halberg, K. (2002). Framework for evaluating the impact of small enterprise initiatives, *Working Paper*. The German Agency for Technical Cooperation (GTZ) and the Swiss Agency for Development Cooperation (SDC).
- Purnariksha, C. (2006). Case study of Thailand's One Tambon One Product project (OTOP), *Oita Conference, One Village One Product International Seminar*, Millennium Hall, Ritsumeikan Asia Pacific University, Beppu City, Oita.
- Sachs, J.D. (2005). *The end of poverty: How we can make it happen in our time*. Penguin Books, England.
- Sahn, D., and Stifel, D. (2000). Poverty comparisons over time and across countries in Africa, *World Development* 28(12): 2123-2155.
- Secretariat Office of Community Enterprise Promotion Board (2005). Number of small and micro community enterprises categorized by region in 2005. DOAE.
- Secretariat Office of Community Enterprise Promotion Board (2005). Number of small and micro community enterprises categorized by types of product in 2005. DOAE.
- Setboonsarng, S., and Parpiev, Z. (2008). Microfinance and the Millennium Development Goals in Pakistan: Impact assessment using Propensity Score Matching, *ADB Institution Discussion Paper No. 104*. Asian Development Bank Institute.
- Sriboonchitta, S., Wiboonpongse, A., Gypmantasiri, P., and Teerakul, N. (2000). The improvement of cottage food industry: Case studies in Chiang Mai and Lamphun provinces. The Multiple Cropping Center, Faculty of Agriculture and Faculty of Economics, Chiang Mai University, Chiang Mai.
- Sricharoen, T., and Buchenrieder, G. (2005). Principal component analysis of poverty in northern Thailand, *Conference on International Agricultural Research for Development*, Stuttgart-Hohenheim, Tropentag.
- ThaiTambon (2008). Number of CBEs product in Thailand categorized by region, (Serial online). Available from URL: <http://www.thaitambon.com> [accessed 22 November 2008].
- UNDP (2004). MDG Plus in Thailand, (Serial online). Available from URL: <http://www.undp.or.th/focusareas/mdgplus.html> [accessed 22 January 2010].
- UNDP (2004). Millennium Development Goals, (Serial online). Available from URL: <http://www.undp.or.th/focusareas/mdgprogramme.html> [accessed 22 January 2010].
- UNDP (2008). Millennium Development Goals (MDGs), (Serial online). Available from URL: <http://www.undp.org/mdg/> [accessed 9 September 2008].
- Venkatraman, N., and Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches, *The Academy of Management Review* 11(4): 801-814.
- World Bank (2008). World Bank updated poverty estimates for the developing world.
- Zeller, M., Sharma, M., Henry, C., and Lapenu, C. (2003). An operational method for assessing the poverty outreach performance of development projects: Results from four case studies in Africa, Asia and Latin America, *The 25th International Conference of Agricultural Economists (IAAE)*, Durban, South Africa.