

RURAL OFF-FARM EMPLOYMENT ASSESSMENT PROJECT

Description of the Rural Off-Farm Employment
Assessment Project in Thailand

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Kasetsart University
With the Assistance of

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FOREWORD

This paper is the first of a series of reports produced for the Rural Off-Farm Employment Assessment Project of Kasetsart University. The project is funded by the U.S. Mission of the Agency for International Development in Thailand under Project No. 493-0306. The objective of the project is to provide information to the Royal Thai Government, USAID and other international donors needed to identify and develop appropriate policies and programs for the rural non-farm sector. The project began in August, 1979, and is expected to continue for two years. In addition to Kasetsart University, Chiangmai, Khon Kaen and other universities are involved in data collection and analysis. Ohio State University and Michigan State University are providing technical assistance to the project. The views expressed in this paper do not necessarily represent the views of the Royal Thai Government, USAID, or any of the participating universities.

This paper presents a general description of the project. It is a revision of the original Project Paper which provided the rationale for funding. Some subsequent decisions regarding project implementation are included.

Copies of this paper can be obtained in Thailand from Dr. Tongroj Onchan, Center for Applied Economics Research, Faculty of Economics and Business Administration, Kasetsart University, Bangkok 9, Thailand. Copies can be obtained in the U.S. from Dr. David H. Boyne, Department of Agricultural Economics and Rural Sociology, Ohio State University, 2120 Fyffe Road, Columbus, Ohio 43210 and Dr. Carl Liedholm, Off-Farm Employment Project, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, 48824. A list of the papers available from this project appears at the end of this paper.

Dr. Tongroj Onchan
Project Director

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**DESCRIPTION OF THE RURAL OFF-FARM EMPLOYMENT
ASSESSMENT PROJECT IN THAILAND**

I. INTRODUCTION

In May, 1979, the Thailand Mission of the Agency for International Development (AID) signed an agreement with the Department of Technical and Economic Cooperation (DTEC) of the Royal Thai Government (RTG) which provided financing for a two-year research Project on rural off-farm employment in Thailand. This paper summarizes the work to be undertaken in the Project. It also provides additional information on aspects of the Project developed and refined after the original Project Paper was written.

II. PROJECT BACKGROUND AND DESCRIPTION

2.1. Background

Thailand has made good economic progress in recent years. Economic growth rates have averaged over 7.0 percent for the past two decades. Prices have been reasonably stable and the balance of payments situation has generally been favorable. Within the agricultural sector, output has risen, and the country has long been a net food exporter. Substantial investments have been

made in roads, irrigation, and other infrastructure in rural areas.

A serious challenge facing Thailand, however, is the need to generate sufficient jobs for a rapidly increasing population. Rural-urban migration rates have been high even though migrants face uncertain employment prospects. At the same time, some rural areas experience labor shortages during peak agricultural periods. While some areas have benefitted from irrigation investments leading to multiple cropping, many dryland areas experience great seasonality in labor demand since only one principal crop is grown.

Some rural areas have a rich heritage of a wide range of non-farm activities which generate rural employment and income. Thailand has attempted to foster additional nonfarm activities in order to absorb the rural labor supply. This strategy is consistent with the experience of other developing countries where non-farm activities provide important primary and secondary employment for large numbers of people in rural areas (Anderson, Liedholm and Chuta, Meyer et.al.).

Unfortunately there has been little systematic analysis of non-farm activities in Thailand. A recent study conducted in northern Thailand revealed that

somewhat over 50 percent of the rural households' time was devoted to non-farm activities (Rapeeapan). Another study in the same area in 1972 showed that non-farm activities contributed 43 to 76 percent of the income for small and landless farmers (Thodey and Seetisam). Most farm and rural household studies, however, provide few details on rural non-farm activities.

Employment studies likewise provide little information on small-scale rural firms. The industrial censuses in Thailand, for example, only include those establishments employing 10 or more workers and thus omit the smallest sized firms (National Statistical Office, Sanguangniang et.al.). There have been a few rural employment surveys (National Economic Development Board 1971, 1972, and Fuhs and Vingerhoets) but these have not included any information on the nature, extent and composition of the non-farm small-scale enterprises. Consequently, there is a basic need for detailed analysis of rural non-farm enterprises in Thailand if effective programs and policies are to be identified, designed and implemented.

2.2. Description of the Project

2.2.1. Objective

The objective of this Project is to provide data and analysis needed to identify and develop appropriate projects and policies to assist in the expansion or non-farm employment and income opportunities in the rural areas and market towns of Thailand. The information and recommendations obtained from this Project are expected to be used by the RTG, USAID, and other international donor agencies. Conferences and workshops will be held to disseminate the results of the Project.

2.2.2. Components of the Project

The Project is divided into three major components: rural non-farm enterprises, farm level surveys and rural financial markets. Each is discussed below with examples of some of the issues to be studied and general research methodology.

2.2.2.1. Rural Non-Farm Enterprises

2.2.2.1.1. Objectives

The overall objective of this component is to analyse the current status of the rural off-farm sector and determine prospects for expansion. Specifically, research is required to:

- Determine the nature, extent, and composition of the rural non-farm sector.
- Identify types of non-farm enterprises which are most labor intensive, economically viable, and offer the greatest growth potential.
- Identify particular constraints on the indigenous expansion of these enterprises.
- Assess the impact of existing and potential industrial policies and programs on rural versus urban and large versus small-scale enterprise development.

2.2.2.1.2. Issues to be Studied

The first issue to be addressed in this component is to determine the role and importance of non-farm activities in rural Thailand. Beyond this, it is necessary to examine the long-term economic viability of these enterprises. Promotional activities which provide short-term subsidies may evolve into long-term necessities. It is important to determine which rural non-farm activities will eventually be able to stand on their own. It is also necessary to identify the extent to which particular factors constrain specific activities. For example, if large initial capital requirements are a barrier to entry, increasing credit

supplies may be warranted. Other potential constraints include slow growth in demand, absence of adequate marketing channels, insufficient working capital, and weaknesses in production technologies. Several sources of demand exist for the output of the non-farm sector. Simple goods for household consumption may be consumed locally or sent to urban centers; export goods such as handicrafts depend on external markets, and farm inputs such as mechanized implements may be used by local farmers. A basic requirement for the rural non-farm sector to expand is that demand for products produced increase at an acceptable rate.

Even if demand is expanding rapidly, imperfections in the marketing system may reduce incentives to increase production. If asked directly, entrepreneurs will almost always say that lack of credit is a problem. However, the demand for working capital is determined by inventory control, input purchase patterns, seasonality in production, and other business practices. In some cases excess demand for credit may be a symptom of other problems. For example, uncertain input supplies may result in excessive working capital requirements as firms buy inputs in advance of need. In such a case, the focal point of policy should be the input market and not the availability of credit.

Another potential constraint is inefficiency in production technologies or lags in adoption of improved techniques. It must be determined if there are particular parts of production processes which can be modified or improved to increase productivity, upgrade quality and firm profitability. Innovations in production processes may be the key to expanding non-farm opportunities in the long run.

Another aspect of the rural non-farm sector which must be understood is the business environment. Preliminary discussions with entrepreneurs suggest that social and economic ties between firms, individual entrepreneurs, and local government officials are quite important. These organizational issues must be dealt with.

A final potential constraint relates to the degree to which farm households are interdependent with non-farm activities. The nature of the employment, skill requirements, working conditions, distance from farm, availability and cost of transportation, and other factors will influence farmer response to non-farm employment activities. Likewise the nature, timing and seasonality of non-farm activities will likely influence farm enterprise mix and production technology. Thus farming systems

must be studied in order to identify the types of off-farm employment most likely to attract and benefit farm families.

2.2.2.1.3. Research Methodology

A three part research procedure is planned for the component:

2.2.2.1.3.1. Surveys of Non-Farm enterprises

Detailed surveys of firms will be conducted in the study areas. The survey methodology will be divided into two phases. Phase I will be a complete enumeration of rural non-farm enterprises. Basic information will be collected on kinds of products produced, the enterprise labor force, and the extent of mechanization. This information will be used to select the firms to be included in the Phase II study.

Phase II will involve collection of data for a full year from approximately 300 enterprises in order to generate flow data on which to base assessments of economic viability. Data on a wide variety of subjects will be collected using modified versions of questionnaires developed by MSU personnel in Sierra Leone and other countries. The primary objective of the survey is to collect quantitative information on which to

base assessments of the economic viability of various industries and sizes of firms, and the nature of constraints on their expansion.

2.2.2.1.3.2. Case Studies

Case studies will focus on particular lines of activity with a view toward identifying weaknesses in marketing, business practices, and technological processes. Interviews will be conducted with individual entrepreneurs to supplement the quantitative information collected in the surveys.

2.2.2.1.3.3. Policy Analysis and Project Identification

Existing and potential policies and programs for encouraging rural off-farm activities will be analyzed. Several steps are involved. First, existing RTG industrial promotion policies and programs, tax policies, regulations and licensing procedures, labor laws, monetary policies, and foreign trade policies must be studied for their impact on non-farm enterprises. Second, several existing institutions for industrial promotion must be analyzed. Third, individual entrepreneurs' perceptions of these programs must be determined since perceptions rather than the actual policies guide actions.

2.2.2.2. Farm Level Surveys

2.2.2.2.1. Objectives

Many farm management studies have been conducted in various areas of Thailand. Most such studies are based on one-time surveys which may include indicators of the importance of non-farm activities such as the percent of income derived from, or the amount of household labor devoted to, non-farm activities. The precise nature of these activities, however, is rarely recorded. Thus, it is not possible to characterize participation with respect to which household members participate, whether the activities are in the household or in nearby non-farm enterprises, whether they involve processing of farm produce for home consumption, whether non-farm employment is complementary in timing and organization with agricultural production, whether agricultural productivity is reduced by off-farm employment, the impact of socio-cultural factors on participation, etc.

The distributional issue involved is also of importance. In many cases there is a clear inverse relationship between farm size and dependence on non-farm income sources, that is, small farms earn a larger proportion of total income from non-farm sources than do large farms (R. L. Meyer et.al. and D. L. Chinn).

Thus, expansion of non-farm employment opportunities may reduce income inequality in rural areas.

The primary objectives of this component of the Project are to:

- Collect detailed primary data on farm enterprises.
- Examine the nature of farm sector demand for labor and other inputs to assess the extent of labor underemployment, and determine the labor absorptive capacity of alternative cropping patterns.
- Analyze the relationship between farm size and off-farm income to determine the potential distributional impacts of non-farm enterprise expansion.

2.2.2.2.2. Issues to be Studied

The primary issue to be studied in this component is the impact of expansion of the rural non-farm sector on the farm sector. This will help establish the types of off-farm employment most likely to receive maximum participation as well as determine the probable effects on agricultural productivity. This issue is particularly relevant because of the importance of agricultural exports, the strategy of crop diversification, and the

expanded adoption of multiple cropping. Whether farmers are willing to adopt recommended cropping patterns depends critically on the marginal productivity of labor in agricultural activities vis-a-vis non-farm activities. An important question is the "cost" of expansion of local manufacturing activities in terms of lost agricultural output.

A second issue is the nature of farm demand for capital, labor, and other inputs throughout the year. For example, to what extent might increased cash income from non-farm activities reduce the need for farm credit by supplementing and smoothing out the farm household income stream during the year? Or, would appropriate farm credit programs increase agricultural productivity and reduce the need for non-farm income sources?

It is unlikely that a progressive rural non-farm sector can be based primarily on seasonal farm labor supplies. Thus, increased opportunities for off-farm employment cannot be regarded as primarily complementary with farming activities. The project will attempt to characterize the nature of the relationship between farm and non-farm labor use on a seasonal (or more detailed timing and organizational) basis. Also, issues such as the effect of increased non-farm opportunities on the

demand for agricultural credit and farm output will be analyzed.

By looking at several relevant farm size classes in each locality studied, the distributional impacts of increased non-farm employment opportunities can be examined as well. In particular, it should be possible to determine if the inverse relationship between farm size and non-farm income can be explained by the need for small uneconomic farms to seek alternative income sources or whether other forces are at work as well.

2.2.2.2.3. Methodologies

Like the non-farm component, this component will involve intensive data collection from a sample of farms, analysis of the survey data and selected case studies. It is expected that a farm survey will be conducted of approximately 100 rural households in each of the three regions of the country selected for study. Data will be collected from the households over a year in order to capture seasonal variation in on-farm labor demand. The survey and analysis will deal with detailed timing and organizational requirements of on farm activities to determine what types of labor are available at what times and for what types of activities. Statistical analysis will be used to examine the importance

of economic and noneconomic factors in explaining household labor allocation.

2.2.2.3. Rural Financial Markets

2.2.2.3.1. Objectives

The central objective of this component is to determine how rural financial institutions and the services they provide affect the performance of farm and non-farm activities. Specifically, the objectives are to:

- Analyze the sources and uses of funds in farm and non-farm firms.
- Assess the impact of recent increases in formal agricultural credit on output, input use, demand for informal credit, etc.
- Estimate the impact of changing credit terms and supplies on farms and non-farm firms.
- Identify the incentives and impediments for broadening lending and savings services in rural areas.
- Examine the impact of informal credit provided through marketing firms.

2.2.2.3.2. Issues to be Studied

The primary issue to be studied is the role of financial markets in stimulating economic development

in rural areas. Since 1976, the RTG has attempted to stimulate farm output through quotas designed to increase commercial bank lending to agriculture. Unfortunately, little is known about the effect of this expanded credit supply on Thai agriculture. Even less is known about the financial constraints that may be faced by non-farm firms and the impact that the expanded credit supply may have on them. Research is required on these issues as it is generally recognized that the functioning and performance of rural financial markets, in both farm and non-farm sectors, are closely interrelated. For instance, credit extended to agriculture might affect employment in the farm sector and hence, affect the labor supply for non-farm activities. Given the scarcity of funds, an increase in loans to agriculture may, in effect, decrease the supply of loans to non-farm firms.

Five types of studies will be conducted under this component. The first will analyze the impact of the recent expansion in agricultural credit. This study will use data collected in the farm survey to address the following issues:

- Who have been the beneficiaries?
- Have small farmers been reached?

- Has increased formal credit led to greater output, acceleration of technological change, substitution for informal credit sources, increased consumption, etc.?
- Have non-farm activities benefitted either directly or indirectly?

The second type of study will analyze how expanded financial services might affect farm and non-farm firms. Analytical models of typical firms will be developed to simulate responses to changes in terms and supplies of credit and savings facilities. Effects of changes in borrowing limits and interest rate will be explored.

The third type of study will be selected case studies of lenders. Some studies will be designed to identify the factors which influence the lenders' choice of portfolio. Their distribution of farm and non-farm rural loans will be analyzed to determine how credit supplies can be increased. Attempts will be made to analyze lender costs to determine how credit supplies can be increased. Estimates of borrowing costs will be made for both formal and informal loans.

The fourth type will be case studies of selected firms selling inputs and purchasing farm products. These firms provide important sources of credit for

farmers. The expansion of formal credit may substitute for these informal sources, thereby permitting them to use internal funds for other purposes.

Government credit policies and programs affecting rural finance will be inventoried and analyzed in the fifth type of study. Government activities can provide incentives for increased lending. Some policies, such as interest rate controls, can introduce impediments by reducing returns below those required to cover costs. The effect of these policies on farm and non-farm loans needs to be analyzed.

2.2.2.3.3. Methodologies

A wide range of methodologies are required to complete this component of the research. Descriptive analysis will be used for topics like sources and uses of funds with balance sheets and income statements as the primary tools of analysis. Detailed enterprise budgets will be developed to determine cash requirements. Analytical models will be developed to represent typical firms in selected regions. The models will be disaggregated to capture seasonal variations in cash requirements. Borrowing and saving activities will be included so the impact of simulated interest rates, borrowing limits, and capital requirement can be studied. Consumption and

savings propensities will be incorporated to reflect cash withdrawals for household purposes. Bank simulation models may be used to analyze and predict lender behavior.

2.2.3. Geographic Areas Studied

Limitations of time, and financial and human resources prevent conducting nationwide research in the detail planned in this Project. Therefore it was necessary to follow a combination of purposeful and random sampling of areas, firms and households to include in the study. The Northeast of Thailand is relatively poor compared to the rest of the country and, therefore, is an important area of concern for the RTG and international agencies. It was decided, therefore, to conduct approximately half of the research in that region. The remainder of the effort is to be spent on the North and Central regions. The North is somewhat richer than the Northeast, and some areas have well-developed rural non-farm enterprises. The Chiangmai valley in particular is well-known for handicrafts, many of which are sold in an active tourist market. Thus, research in this region will provide insights into the types of activities, problems and constraints that other regions may face if they pursue a similar development

strategy. The Central region is the richest one in the country. Inter-sectoral linkages are already reasonably well developed for several inputs and products. Thus research in this region will provide interesting comparative data from a more developed segment of the rural economy.

Within these three broad regions of the country, several locations were selected for the farm and nonfarm surveys. The following criteria were used to select these locations:

1. Locations should be as representative as possible of the regions dominant cropping systems and primary non-farm enterprises.
2. Locations should be reasonably accessible to Kasetsart, Chiangmai and Khon Kaen Universities, in order to use their staff and facilities and build up their research capability.
3. The location of previous studies should be considered because comparative analysis can provide insights into changes in the rural economy over time.
4. The target areas of USAID and other donor agencies should be considered in order to maximize the usefulness of the research.

Based on these criteria, the areas reported in Table 1 were selected by the Project Director in consultation with the three Thai universities involved, OSU and MSU research advisors and USAID.

Table 1. Project Research Areas

Region	Province(s)	Districts
North	Chiangmai	1. Chiangmai (Muang) 2. San Kamphaeng 3. Sanpatong
Northeast	Khon Kaen	1. Khon Kaen (Muang) 2. Ban Pai 3. Chonnabot 4. Nam Phong
	Roi-et	1. Roi-et (Muang) 2. Chaturapakpiman.
Central	Suphanburi	1. Supanburi (Muang) 2. Donchedi

In each province, the central metropolitan area (known as Muang in Thai) was included for study as well as other districts which include market towns related in economic activities to the central metropolitan area. Villages will also be selected in each of these districts for study.

2.2.4. Other Project Components

In addition to the studies and evaluations discussed above, the Project will include a technical assistance component, a series of conferences and workshops, and development of future projects. Technical assistance will be provided by Project funding and by OSU and MSU cooperative agreements with AID. This assistance will support the research activities and will be available to assist RTG agencies.

A series of workshops will be held during the life of the Project. In addition two major conferences will be held, one midway through the Project, and the second towards the end. These workshops and conferences will be used to facilitate the involvement of RTG entities concerned with the problems of rural industrialization, disseminate the results of the Project, and facilitate communication and interaction among RTG agencies concerned with policy and project development. The first workshop was held at Kasetsart University on August 15, 1979. The purpose of this workshop was to discuss the general research design.

The results of the Project will provide data and information needed to develop appropriate policies, programs and projects concerning the rural non-farm

sector. The Project will attempt to formulate specific proposals and projects which may be funded and implemented by several agencies.

2.3. Implementation

2.3.1. Kasetsart University

The Center for Applied Economics Research at Kasetsart University will be the primary implementing agency for this Project. The Center was created to conduct research on economic problems, especially in rural areas, and has the ability to draw upon faculty resources throughout the University. Several faculty members have graduate training from the U.S. and elsewhere. They have participated in field surveys and a number have conducted research with international agencies.

The Center will also recruit researchers from other universities, especially Chiangmai and Khon Kaen, to work on the Project. Some Project staff may be located in these two universities. As much research as possible will be conducted with local support in order to strengthen institutional capability to conduct this type of policy related research.

Kasetsart University has appointed Dr. Tongroj Onchan as Project Director and Dr. Pradit Charsombut as Assistant Project Director. The Project Director will also be

assisted by administrative and secretarial staff. Researchers and research coordinators will be hired as needed to collect data, supervise data collection and conduct research.

2.3.2. AID

USAID/Thailand will appoint a Project Officer for monitoring day-to-day implementation matters, evaluation, and liaison. Other USAID staff will be involved in the identification and formulation of projects and policies which emerge from this Project. The Office of Rural Development and Development Administration of AID Washington will provide technical assistance through cooperative agreements with U.S. institutions. This Office will also help coordinate procurement of consultants and coordinate AID activities which relate to this Project.

2.3.3. DTEC

Funds to be managed by Kasetsart University are channeled through DTEC, the RTG agency for coordination of foreign technical and economic assistance programs. DTEC also provides auditing and project monitoring functions. Relationships and procedures are explained in the Project Grant Agreement for AID Project No. 493-0306.

2.3.4. OSU and MSU

OSU and MSU will provide technical assistance to the Project through cooperative agreements with AID. OSU has selected Dr. Richard L. Meyer as long-term advisor and MSU has selected Dr. Donald C. Mead. They coordinate the activities of short-term consultants and researchers provided by their respective universities.

2.3.5. Implementation Committee

An Implementation Committee has been formed to serve as a coordinating body to deal with administrative matters and review progress throughout the life of the Project. The current members of the Committee are listed in Table 2. Additional members will be added as needed.

Table 2.. Composition of Implementation Committee

Name of Member	Institution
1. Dr.Sopin Tongpan	Chairman of Committee and Dean, Faculty of Economics and Business Administration, Kasetsart University
2. Dr.Tongroj Onchan	Deputy-Chairman and Associate Professor, Department of Agricultural Economics, Kasetsart University
3. Mrs. Orapin Verawut	Chief, Planning Division, Ministry of Industry

Table 2. (Continued)

Name of Member	Institution
4. Mr. Kitipan Kanchanapipat	Chief, AID Division, Department of Technical Cooperation, Bangkok.
5. Miss Sayan Ratanapruk	Representative, Financial Office, Department of Technical Cooperation
6. Mr. Pairoj Suchinda	Chief, Rural Development, National Economic and Social Development
7. Dr. Yuwat Wutimathi	Chief, Appraisal Division, Department of Rural Development, Ministry of Interior
8. Mr. Supachai Suetrong	Chairman, Department of Agricultural Economics, Khon Kaen University
9. Mr. Suwapot Lekawatana	Chairman, Department of Agricultural Economics, Chiangmai University
10. Dr. Pradit Charsombut	Lecturer, Department of Economics, Kasetsart University
11. Mr. Vinai Arjkongharn	Lecturer, Department of Cooperatives, Kasetsart University

2.3.6. Advisory Committee

An Advisory Committee has been selected for the Project. Members were selected on the basis of their interest in the Project, the need to involve certain strategic organizations, and the access to information and institutions that they can provide. The Committee

will help to prevent duplication and excessive overlap with previous or concurrent research, to interest RTG organizations in utilizing the information provided by the Project, to evaluate the generalizability of the information, and to interpret the results for the private sector. The institutions currently represented on the Committee are listed in Table 3. Additional members will be added as needed.

2.3.7. Private Sector

Since this Project concerns measures to promote private sector business activities, contacts will be established with key members of the private business community in Bangkok and in survey areas. These contacts will provide access to channels of communication necessary to understand the problems and prospects of rural non-farm enterprises. In addition, these contacts will help provide a realistic appraisal of the practicality of measures recommended to promote rural enterprise development.

2.3.8. Implementation Schedule

Table 4 summarizes the schedule of anticipated activities under this Project. Due to the delay in signing the agreement, some of the early phases of the Project will be accelerated. It is expected that Phase I

Table 3. Composition of Advisory Committee

	Institutional Representative	Position
1.	Director-General, Dept. of Industrial Promotion, Ministry of Industry	Chairman
2.	Deputy Secretary General, Office of the National Economic and Social Development Board	Vice-Chairman
3.	Director, Population and Manpower Planning, Office of the National Economic and Social Development Board	Member
4.	Director, Division of Economic Projects, Office of the National Economic and Social Development Board	Member
5.	Director, Division of Cottage Industries, Industrial Promotion Department	Member
6.	Director, Thailand Management Development and Productivity Center, Industrial Promotion Department	Member
7.	Director, Division of Operations, Dept. of Community Development	Member
8.	Vice Rector of Academic Affairs, Khon Kaen University	Member
9.	Dean, Faculty of Economics and Business Administration, Kasetsart University	Member
10.	Director, Institute of Research and Development, Kasetsart University	Member
11.	Dr. Tongroj Onchan Director, Center for Applied Economic Research, Kasetsart University	Member and Secretary

Table 4. Schedule of Activities

Activity	Month(s) of Implementation
Recruitment of researchers and consultants	1-2
Project design	1-4
Develop Phase I questionnaires	2
Hire and train interviewers	2
Conduct Phase I survey	2-3
Analyze Phase I survey	2-4
Draw sample for Phase II surveys	4
Conduct farm survey	5-16
Conduct Phase II non-farm survey	5-16
Analyze characteristics of farm sample	6
Analyze characteristics of non-farm sample	6
Study government policies and programs	8-10
Study business environment	8-10
Prepare first six months farm data file	11
Prepare first six months non-farm data file	12
Analyze first six months farm data	12-13
Analyze first six months non-farm data	13-14
Case studies - selected lenders, firms, dealers	11-16
Prepare twelve months farm data file	17
Prepare twelve months non-farm data file	18
Analyze twelve months farm data	18-23
Analyze twelve months non-farm data	19-23
Research design workshop	1
Mid-survey assessment workshop	11
Rural employment conference - I	12
End of survey assessment workshop	18
Rural employment conference - II	24

Note: Month 1 in this schedule corresponds to August 1979.

of the non-farm survey will be conducted during September and October 1979. Phase II surveys of both farm and non-farm firms will begin in December. This schedule is necessary in order to coincide with the beginning of the crop season in several parts of Thailand. Phase II data collection will be conducted for an entire year. Selected case studies will be conducted at various times.

A mid-survey assessment workshop will be held approximately at the end of the first year of the Project. This workshop will be technically oriented and will review the Project for possible mid-course adjustments. Soon thereafter, the first conference will be held to present preliminary results and interpret the implications for Thai agencies. A second conference, to be held at the end of the Project, will summarize the final results and identify programs and policies for implementation based on the results.

2.4. Evaluation

Evaluations of the Project will be carried out on a semi-annual basis, beginning six months after initiation. These evaluations will be planned and conducted by the Project Director, assisted by the MSU and OSU advisors, the USAID Project Officer, and the

DS/RAD Cooperative Agreement Project Manager. Other consultants, both Thai and U.S., may be added as needed. The evaluations will assess the progress of the studies and analyses being conducted. As a basis for these evaluations, quarterly progress reports will be prepared by the Project Director. Based on these evaluations, recommendations will be made regarding the research plans, methodologies, administrative arrangements, or other areas in which adjustment might be needed. The evaluation reports will be given appropriate distribution and will serve as discussion papers for evaluation and planning of policies and projects to promote rural non-farm enterprises.

In addition to the largely internal evaluation process described above, evaluations will be conducted at the end of one year and again at the end of the project. These will be "in-house" evaluations in that the evaluation committee will be composed of representatives of the organizations (DTEC, Kasetsart, USAID) concerned with the project, but not necessarily involved in day-to-day implementation. These evaluations will utilize standard AID procedures.

Evaluation of the MSU and OSU activities supporting this project will be conducted by DS/RAD staff according to the schedule prepared for evaluation of cooperative agreements.

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