

**A Manual on
Monitoring and Evaluation for
Alternative Development Projects**

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Foreword

It's about Leadership

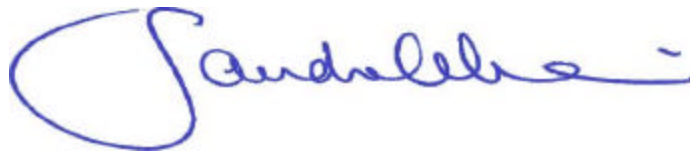
Alternative development is about development, for sure. But it is first about “Alternative”.

Alternative means change. It is impossible to hope that people involved in illicit crop production willingly engage in an alternative venture, to be supported by their ignorance on market conditions, by their lack of food security, public health and often widespread illiteracy.

That is why leadership plays a fundamental role in providing a cornerstone for rural commitment to alternative livelihoods.

More often than not, leadership is about a strong group of village leaders, who wish to guide their people in pilot alternative income generating activities and have the technical know how to be credible and effective.

And there training becomes the real engine of successful alternative development ventures. The Regional Centre for East Asia and the Pacific is glad to share our know-how and good practices in this field.



Sandro Calvani
UNODC Representative
Regional Centre for East Asia and the Pacific

Preface

Monitoring and evaluation can be effective tools to enhance the quality of project planning and management. Monitoring helps project managers and staff to understand whether the projects are progressing on schedule and to ensure that project inputs, activities, outputs and external factors are proceeding as planned. Evaluation can be a tool to help planners and managers assess to what extent the projects have achieved the objectives set forth in the project documents.

This manual intends to provide some basic information and practical guidelines on project monitoring and evaluation in order to enhance better understanding on project monitoring and evaluation. All modules in this manual were used for the regional training on Monitoring and Evaluation for Alternative Development Projects and have been revised and simplified for distribution to interested project planners, managers and field staff. It is hoped that the manual will serve as their reference to acquire better understanding on project monitoring and evaluation and to obtain some practical guideline on the design and implementation of project monitoring and evaluation. We also hope that the manual will enhance the capacity of the planners and managers to understand both qualitative and quantitative approaches to project evaluation and to be able to discuss with project evaluators on the needs and requirements for their project evaluation and to fully comprehend the results of the evaluation from both qualitative and quantitative methods. I would like to thank the team of resource persons from Chiang Mai University for their contributions to the regional training and the development of this manual.



Sanong Chinnanon
Coordinator for Alternative Development Cooperation

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INTRODUCTORY SESSION*

1. INTRODUCTION

“*Golden Triangle*” continues to be the main source of global opium production. Its potential capacity for the world supply is estimated at 1,237 tons of raw opium, equivalent to 76% of total world production. This also means approximately that a total of 123,000 ha of critical mountain land is required for opium cultivation in Southeast Asia. The current efforts with Alternative Development (AD) strategy have been implemented throughout the region with national government and international community. In support to the on-going AD Projects, the United Nations Office on Drugs and Crime (UNODC) Regional Centre in cooperation with the Australian Government has supported sub-regional activity on Alternative Development Cooperation in East Asia (C96) since the year 2000. As part of the present work plan, a regional training on Project Monitoring and Evaluation (M & E) has been readily endorsed by the Project Coordination Committee to strengthen national capacity with support to AD personnel and Project staff.

The need for Project M & E training was expressed at the annual meeting of the Project Coordination Committee (PCC) for Alternative Development Cooperation in East Asia in Luang Prabang on 11 March 2002. In response to the need, Regional Centre for East Asia and the Pacific, led by Dr. Sanong Chinnanon, has initiated the training project document for working with host institutes in Thailand. The International Centre (IC) of Chiang Mai University has agreed to serve as host institute and academic staffs from the University has formed up an interdisciplinary team to assist the training. The training workshop has been designed for implementation between 11-16 November 2002, in Chiang Mai province of northern Thailand.

2. PROJECT OBJECTIVES

The objective of the Regional Training Workshop is to provide some basic knowledge and gain a better understanding as well as practical skills for project managers and staff from Alternative Development (AD) Projects. Participants have been recruited from the member countries of the Southeast Asia Sub-region where Alternative Development Strategy is being utilized to prevent and eliminate the cultivation of illicit drug crops. This Training Workshop is expected to enable

* Luechai Chulasai, International Center (IC), Chiangmai University, Chiang Mai

participants to plan and implement monitoring and evaluation tasks as part of project management and implementation.

3. WORKSHOP STRUCTURE, DESIGN AND TRAINING PROCESS

This Regional Training Workshop is organized into 5 training modules:

- Module 1:** Overview and Conceptual Framework for Alternative Development
- Module 2:** Design and Implementation of Alternative Development Project Monitoring
- Module 3:** Design and Implementation of Alternative Development Project Evaluation
- Module 4:** People's Participation in Alternative Development Project Monitoring and Evaluation
- Module 5:** Data Analysis, Interpretation and Presentation
- Module 6:** Field Testing for Monitoring and Evaluation Tools and Methods: Gaining Practical Experiences

In short, the Training Workshop consists of 3 major components to include conceptual framework of alternative development, the basic principle of project monitoring and evaluation with specific reference to development and drug control projects and the design and implementation of monitoring and evaluation. The overall training process may be illustrated in a flow diagram as shown in Figure 1.

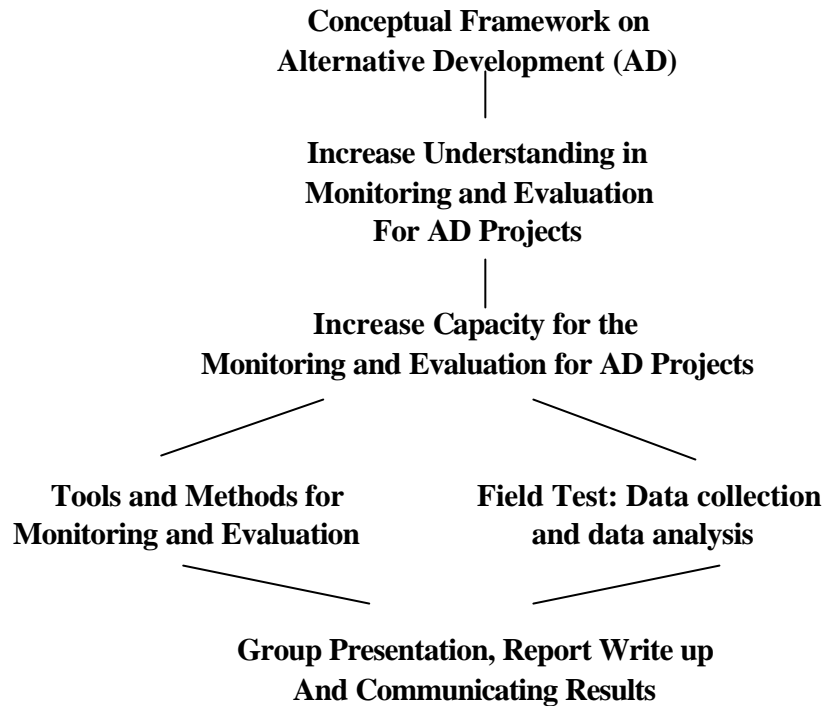


FIGURE 1. *The Design and Process of the Training Workshop on Monitoring and Evaluation for Alternative Development (AD) Projects.*

Tools and methods for project monitoring and evaluation will be introduced and discussed with examples from countries in the region. Resource persons have already prepared training modules and materials for presentation to encourage small group discussion among the participants. In addition, a field training session will be arranged in a *Hmong* village in Mae Rim district of Chiang Mai province. The outcome of the above activity would enable participants to plan for data collection, carry out analysis as well as reporting.

Participants are expected to bring with them their Project Document for review and exchange view and experience in implementation of AD Projects in their own countries. Following short presentation on the conceptual framework, monitoring and evaluation approaches, including field tools and methods. The Training Workshop has been designed to encourage group dynamic with intensive small group discussion and interdisciplinary teamwork. Resource persons will be organized to assist the participants, group discussion, data collection, analysis and reporting.

4. VENUE OF THE TRAINING WORKSHOP

The International Center (IC) of Chiang Mai University offers the venue for the workshop with lodging facility for workshop participants. The Centre is within proximity to the Health Center, a standard swimming pool at the Rincome Amari Hotel and diversity of dining places. It is a walking distance to one of the major shopping mall, Kad Suan Kaew.

5. PARTICPANTS AND RESOURCE PERSONS

About 30 project managers and key personnel in charge of monitoring and evaluation of AD Projects in Laos, Myanmar, Thailand, Vietnam and Yunnan in China are expected to participate in the training. An interdisciplinary team from Chiang Mai University and Regional Office in Bangkok will be formed as a resource person team for the training and fieldwork. Relevant implementing agencies for Highland Development Projects in the area will be invited to provide project briefing, field assistance and other necessity to facilitate the participants.

MODULE 1: CONCEPTUAL FRAMEWORK FOR ALTERNATIVE DEVELOPMENT PROJECTS*

1.1 SCOPE OF THE MODULE

This training module describes the conceptual framework for alternative development projects on the basis of alternative development (AD) paradigm. The holistic concept of AD is introduced and discussed in relation to the historical development and evolution of the concept. Extension of the concept to project implementation, monitoring and evaluation is also described with the linkage to the national context. Overall conceptual framework for alternative development is presented and discussed. A case of Ky Son Project in Vietnam is chosen as an example of AD project in the region to illustrate the application of AD concepts and conceptual framework for project implementation during 1996-2000.

1.2 LEARNING OBJECTIVES

At the end of the discussion, participants in the training workshop are expected to

- (1) gain a better understanding of AD principles and concepts;
- (2) learn about the diversity and complexity of AD Projects;
- (3) have capacity to conceptualize the analytical framework for monitoring and evaluation of AD projects in their own country; and
- (4) be able to effectively apply AD concepts for project monitoring and evaluation in diverse biophysical, social and cultural setting.

1.3 INTRODUCTION

Alternative development (AD) is a recent development paradigm and the term was, perhaps, introduced by UNODC in the middle of 1990s. The root of the AD concept may be dated back to late 1940s when the Chinese Government had successfully eliminated the cultivation of illicit opium poppy in the major growing area such as in the southwestern part of the Mainland China, i.e., Yunnan province (McCoy 1972 and Rerkasem 2000). It was not until the early of 1970s that the idea

* Presented by Kanok Rerkasem, Chiang Mai University, Chiang Mai, Thailand

of crop substitution has come up in the development scene to suppress opium production in one of the World export of opium, the Golden Triangle (White 1972). At that time, the cash crop commodity approach was dominated in AD projects, the upper part of northern Thailand in particular. Through over 30 years of lessons and experience, the idea of alternative development has begun to emerge in the late 1990s and this has been used as the basis for intervention of UNODC projects, other national and external supported projects to suppress or eradicated opium production in the country.

This training module is organized to provide some basic concepts and discuss conceptual framework for monitoring and evaluation of AD projects in the region. Lessons and experiences have been drawn from past development efforts in the region. It is, then, followed by a review of major approaches to AD and example of application AD in Ky Son Project of Vietnam.

1.4 THE MEANING OF ALTERNATIVE DEVELOPMENT (AD)

In the past, Alternative Development means different thing to different people in the field of illicit crops and drug control programmes. Much of experiences are carried out in the field within the different local and national contexts, and the conditions have led to a unified concept of Alternative Development (AD) in the transition period to 1990s. It is now possible to talk about a common meaning of AD with a definition that has been now endorsed by the United Nations General Assembly at its twentieth special session in June 1998. The United Nations General Assembly Special Session (UNGASS) defined Alternative Development (AD) as

“..... a process to prevent and eliminate the illicit cultivation of plants containing narcotic drugs and psychotropic substances through specifically designed rural development measures and the context of sustained national economic growth and sustainable development efforts in countries taking action against drugs, recognizing the particular socio-cultural characteristics of the target communities and groups, within the framework of a comprehensive and permanent solution to the problem of illicit drugs”

For practical purposes, AD is **the process through which prevention, reduction and elimination of illicit cultivation of drug crops are achieved by specifically designed rural development measures that are aimed at providing lawful, economically viable and sustainable means of income as well as an improved livelihood to rural communities** (Boonwaat 2001). The definition contains elements of the campaign against drugs, the various aspects of social and economic development on sustainable basis and the most important element, the

participation by local people. Therefore, AD may be considered as a national tool for drug control and specific development in national framework with active people participation.

1.4.1 Basic Principles Underlying Alternative Development Concept

The most significant outcome of UN General Assembly Special Session in June 1998 is the endorsement of action plan on International Cooperation of the Eradication of Illicit Crops and Alternative Development. The plan stresses the importance of integration between AD programme and law enforcement measures. To elaborate this further, UNODC (2001) raises 3 points relating AD concept to policy implication as follows:

- (1) the need to achieve socio-economic pacification and stabilization of areas affected by the domination and violence of drug traffickers,
- (2) the need for expediency, in order to proceed with the eradication of illicit crops cultivation and reduction of drug supply, in offering real subsistence alternatives, as in most cases farmers' livelihood strategies depend on illicit crop production, and
- (3) the necessity of ensuring collaboration between consuming and producing countries in addressing the drug problem in a balance and coordinated approach.

The first point is clearly shown to be the major difficulties in AD. It refers to the need for simultaneously balancing in a complementary fashion, drug control and pacification objectives on the one hand and economic development and social stabilization objectives, on the other. The second point is, perhaps, the keystone of AD activities, connotes the principle of "necessary compensation" to help small farmers find and adopt alternative means of subsistence as well as economic and social development. The third point is the basis of the "share responsibility" principle, where AD activities presuppose to be co-financed by the drug-producing and drug-consuming countries.

1.4.2 Contents and Objectives of Alternative Development

At national level, two interrelated objectives are guiding AD intervention. The main objectives to which AD activities contribute, are (a) to reduce the supply of raw materials for drug production, and (b) to consolidate a licit economy, allowing regions to return to the mainstream economic and social development of the country. At the project level, AD objectives have become more specific and limited, and related to various strategic components. To much lesser or greater extent in all AD projects, these components include:

- (1) Income substitution (economic and productive strategy);
- (2) Establishment of conditions of peace and legality (political strategy);
- (3) Strengthening farmers' organizations (organizational strategy);
- (4) Improving quality of life of the people involved (social strategy);
- (5) Dissemination of sustainable development models (environmental strategy); and
- (6) Empowering community in the fight against drug (social strategy).

1.4.3 Operational Framework for Project Monitoring and Evaluation

As the nature AD project is a process development approach, monitoring and evaluation of AD projects would require the understanding of the process being going on. The operational framework based on some of the above strategies may be hypothetically developed for AD arguments as shown in Figure 1.

Introduction of AD activity would be expected to reduce opium poppy growing area significantly. Further reduction may involve law enforcement in order to keep eradication strategy continues with national policy. With cash crop promotion to replace opium poppy cultivation, unplanned demand of land for cash crops may increase rapidly. Increasing demand of good land for commercial agriculture could potentially result in land use conflicts with the community, between community and between lowland and upland communities. Intensive use of sloping land without proper soil and water conservation may lead to severe land degradation at local and watershed scale, threatening ecosystem sustainability. Rapid reduction of opium poppy may have both positive and negative income to farming households. Without people participation, the rapid reduction would have negative impact on local households and their food security (Figure 2). If this happens, social sustainability of the former opium poppy growing households is under threatening.

The overall result may jeopardize AD efforts. Cultural erosion is another aspect that has often been raised in AD projects. Increased income may push the former opium addicts in the community to shift from opium to other drugs. In the case of northern Thailand, for example, official records have shown drastic increase in the number of drug users with heroin at the beginning of opium eradication to methamphetamine and others.

1.5 APPROACHES TO ALTERNATIVE DEVELOPMENT

As already mentioned earlier, AD may be traced back to as far as the late 1940s, and the evolution of AD approach stems from the idea of crop substitution in 1970s to integrated highland development in 1980s to community-based approach in 1990s. As lessons and experiences build up, the complexity of AD approach increases through AD interventions for the past over 30 years.

1.5.1 Crop Substitution Approach (1970s)

In early 1970s, UN started Crop Substitution Programme in northern Thailand as a target area to eradicate opium poppy cultivation in the Golden Triangle, one of the major opium production areas in the world. The approach was based on the identification of potential cash crops for the biophysical advantages of the opium growing area, e.g., high altitude with favourable temperature to a wide range of sub-tropical to temperate annual and perennial crops, fruit trees and vegetables. Production technology is often packaged with the most potential crops from opium growers. Apart from the monitoring and evaluation of the potential cash crops, opium survey has been the major tool for project monitoring and evaluation. Law enforcement is often lagged behind the development of alternative crops to ensure sustainable reduction of opium poppy area. The success of crop substitution programme and law enforcement in the region varies widely between country to country (Table 1). The earlier projects with dominant crop substitution approach may take as long as 30 to 50 years. In contrast, recent AD projects in the region may take as short as 6 years, i.e., Vietnam. Rapid reduction of opium growing area in remote area with poor marketing structure may have negative impact on household food security.

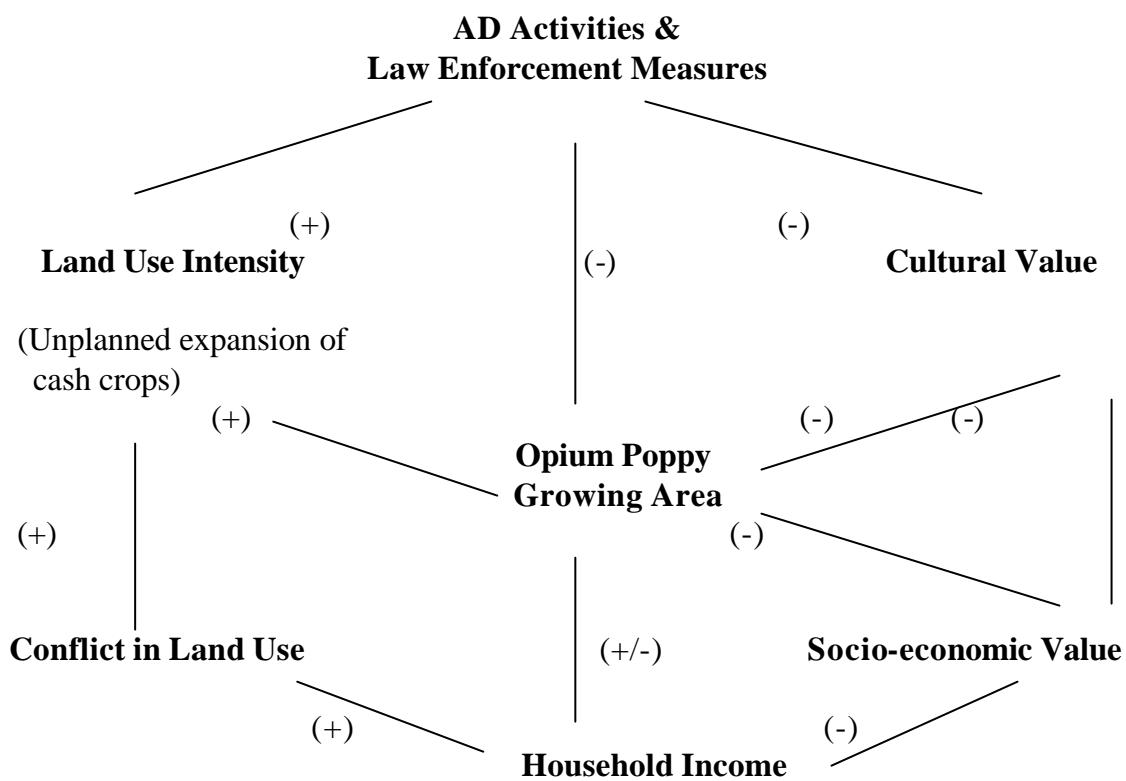


FIGURE 1: Sustainable challenge of AD Projects and Interrelationship between Project Strategies.

(a) Gradual Eradication

(b) Rapid Eradication

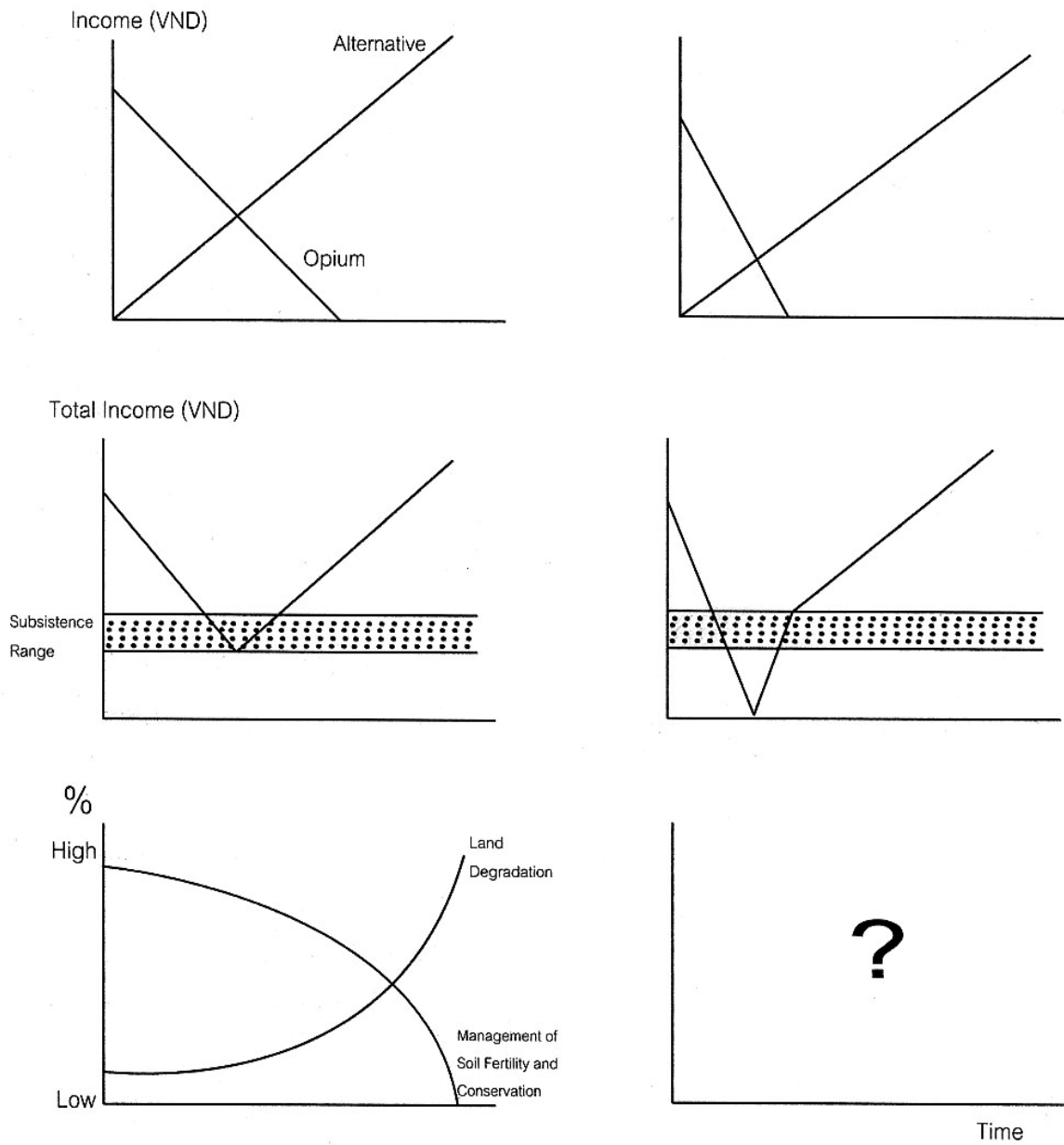


Figure 2: Hypothetical impact of opium poppy eradication and alternative development in contrasting situations; (a) gradual eradication of opium poppy and (b) rapid eradication

TABLE 1: Opium growing area and AD experiences in Southeast Asia sub-region

Country/Target Area	Opium Growing Area in 2000 (ha)	Years of AD Experience
China (Yunnan province)	0	>50 (1949)
Thailand (Northern Thailand)	1,486	>30 (1969)
Myanmar	130,300	20 (1980)
Laos (Northern part)	27,000	12 (1989)
Vietnam (Highlands)	600	6 (1993)

Source: Rerkasem (2000)

The hybrid between development and law enforcement is often referred to as a ‘*carrot and stick*’* approach in AD projects. This approach could have negative impact to people participation and community empowerment, and the results of alternative development could turn out to be a failure (Gilbert and Rerkasem 2002 and Armenta et. al. 2002). Although the crop substitution has been used since the early stage of international campaign against drugs, it remains one of the major components of AD project with respect to eradication and income generation objectives. In northern Thailand, the Royal Project is the pioneer in development and promotion of crop substitution to opium poppy. The Project was initiated in 1969 with strong financial and research supports. Up to present, the Project has achieved its opium eradication objective with successful introductions of the wide range of ‘new’ cash crops, temperate fruit trees and vegetables, and high value cut flowers for crop substitution programme. The Project contains strong marketing component integrated with production. It has successfully developed large-scale marketing structure connected to private sectors and its own outlets throughout the country. Marketing is one of the major weaknesses in crop substitution program.

Many projects have failed after termination period. With reduction of external support to alternative development in Thailand, the Royal Project has become the major development agency for former opium growing communities in the country. The Project has recently integrated into the mainstream development of national policy with financial support from government. There are several extension projects under 35 development centres in former opium growing area of Chiang Mai, Chiang Rai, Lamphun, Mae Hong Son and Phrayao provinces (Figure 3). This covers a total area of 1982 sq.km² in 257 villages with population of almost 100,000 people in the Project.

* A concept combined a promised reward with a threatened penalty.

1.5.2 Integrated Rural Development Approach (1980s)

The approach was introduced and built on the experiences and lessons learned from crop substitution programmes in 1970s (e.g., Jinawat 2001, Renard 2001 and Kampe and Iamprapai 2002). The integrated rural development approach with a label of “*Highland Development Project (HDP)*” was implemented to meet the basic needs of target population. There were a large number of externally assisted projects during this period. These HDP Projects employed area approach for planing and intervention based on the First Masterplan for Highland Development in Opium Producing Areas: 1985-91 (ONCB 1985). The overall target areas for opium eradication were mapped out for the intervention of HDP projects (Figure 4). The overall goal of the First Masterplan was to cover about 60 % of total opium growing area in the country. A monitoring system of opium growing area was set up with satellite images and ground check.

With coordination at all levels in government structure, access to government support and services improved greatly in the remote hill areas. Education and health services have developed successful model for interventions, e.g., the Hill Area Education Model and the Community Health Programme with extensive health centres and volunteer workers for the hill tribes. Infrastructure development was provided to improve rural life, communication and transportation of agricultural produces e.g., feeder roads, small-scale irrigation and domestic water supply. Monitoring and evaluation of AD project in the context of rural development project has to be seen in multidimensional nature

1.5.3 The Emergence of Participatory Approach in Alternative Development Projects (1990s)

Although participatory approach was gradually adopted, it was not until 1990s when projects began to see the importance of people’s participation on project achievement. Without active people’s participation little would be accomplished. The participatory approach was increasingly significant where community began to encounter conflict in use and management of natural resources. In areas where production pressure on land is increasing rapidly due to demand for various uses including conservation, the social problem leading to conflicts in land use would be inevitable and the problem may be detected at different scales depending upon the severity of the problem and biophysical limitation.

The conflicts may be occurring at local scale within the community, between communities at local level or between lowland and upland communities at watershed level. The problem of land use conflicts is becoming to be fairly

common with the region (Rerkasem, 2002). Resolution to the conflicts could be found in the process of participatory land use planning and community-based watershed management (e.g., TG-HDP 1998). Similarly, the increasing demand on drugs in certain areas, e.g., heroin and ATS, the introduction of Community-Based Drug Abuse Control (CB-DAC) would offer alternative measure for control and prevention the drug problem in the community.

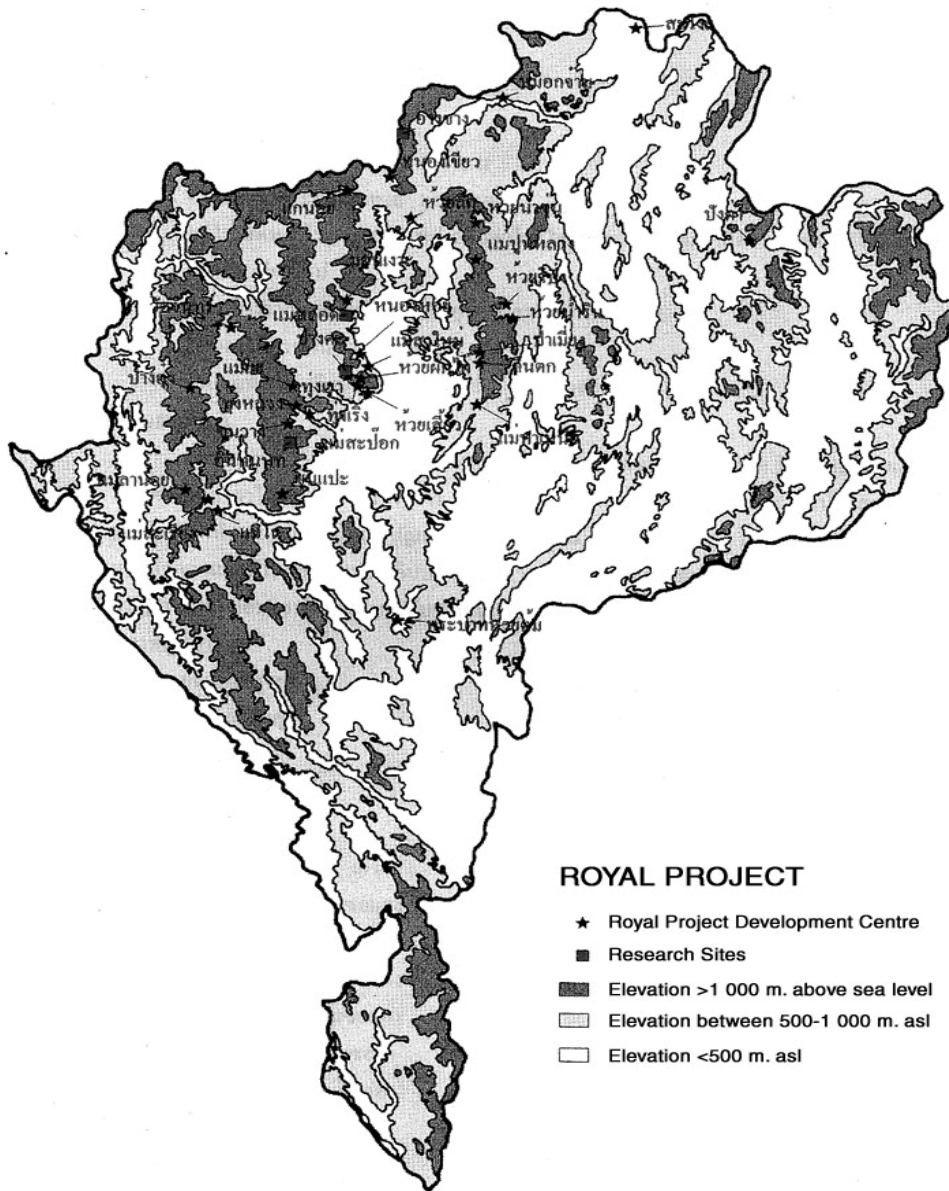


FIGURE 3: Map of the Royal Project Development Centers in northern Thailand.
Source: Royal Project Document

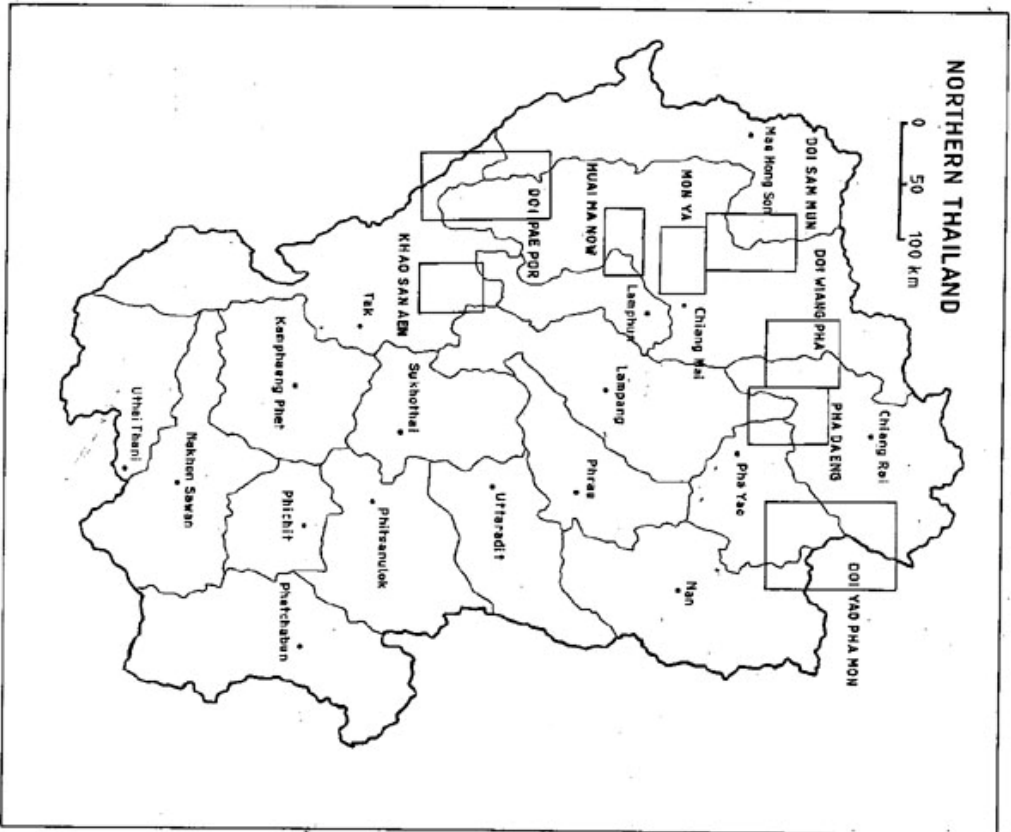
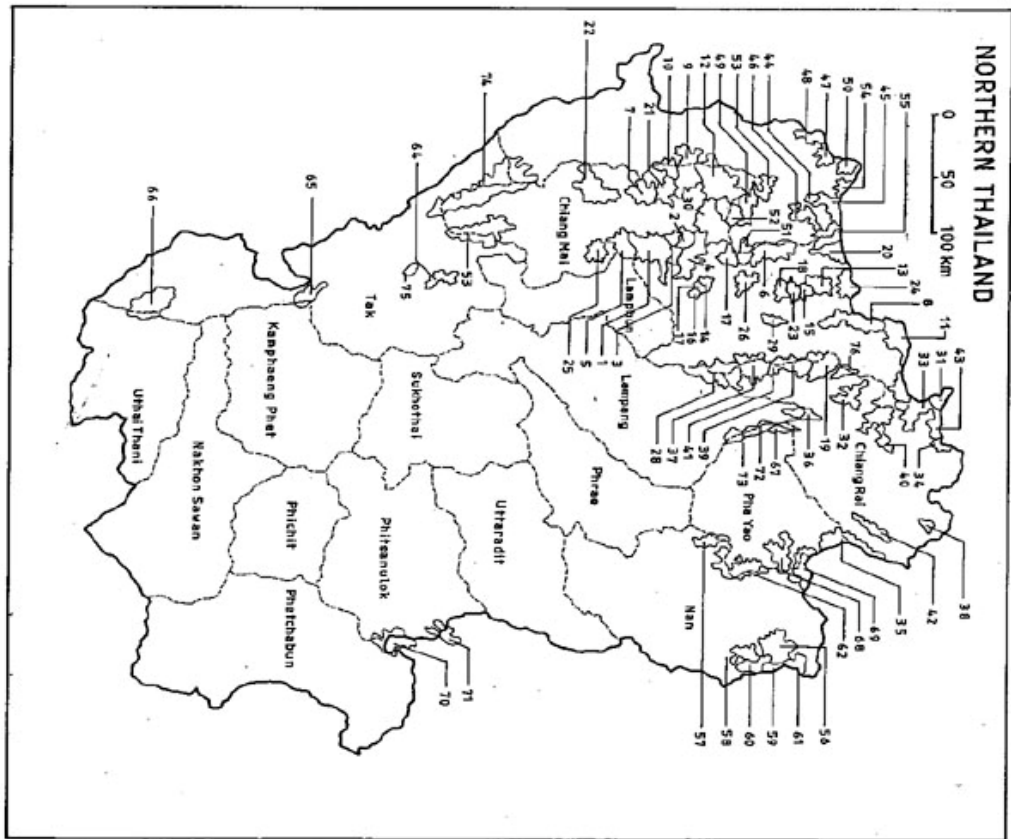


FIGURE 4. Maps of opium growing area (a) and target area zoning for opium poppy eradication Programmes in northern Thailand.
Source ONCB (1985)

For Thailand in 1997 for example, the Cabinet authorized the ONCB to apply CB-DAC measures in 1,145 villages that had been identified as having severe drug addiction problem (Kampe and Iamprapai, 2002)

1.5.4 Alternative Development (2000s)

From lessons and past experiences of UN-intervention and campaign against illicit opium poppy cultivation in the region, the integrated strategies of alternative development and the parallel law enforcement have been suggested for project implementation in the year of 2000. Although the linkages between drugs and development is not new but the efforts have been addressed to the supply problem with the dominated crop substitution approach.

The framework for alternative development is then the combination of supply reduction, demand reduction and law enforcement strategy. AD approach is becoming more holistic with broader perspective (Berg 1998). The success in alternative development depends upon the national framework for AD, conditions in intervention, support and cost effectiveness. Conditions for development in a given country or area need to be taken into account and alternative development has to be linked to other development issues and activities.

In area where narcotic drugs are produced, governments have little control or their political will to interfere is of limited. In such the area, local counterpart institutions are often lacking. It may be doubtful whether alternative development is feasible under this condition. Forced eradication of opium poppy cultivation may be in conflict with development. The inclusion of demand reduction in alternative development is to address the problems of local drug use. Alternative development is not just merely rural development but sustainable human development. In summary, comprehensive assessment of past experiences and lessons in alternative development in Asia (Berg 1998) has shown that

- ▶ alternative development, where carried out in a meaningful way and supported by governments with political will to control drugs, it can be expected that AD would contribute significantly to a reduction in opium poppy cultivation;
- ▶ alternative development, when measured against the quantity of opium reduced, could be costly and time consuming;
- ▶ alternative development, when measured against its contribution to opium poppy reduction and to overall rural development, has been rather successful and cost effective.

1.6 CONCEPTUAL FRAMEWORK OF ALTERNATIVE DEVELOPMENT

On a whole, a conceptual framework for alternative development may include:

First, development as sustainable human development;

- ▶ focus on people priority and their basic needs,
- ▶ ensuring ecological, but also social and cultural sustainability,
- ▶ participation in and equitable access of people to economic, social, cultural and political processes that affect their lives,
- ▶ the need for good governance, that is governance which include participatory, transparent, accountable, effective and equitable, and that promotes the rule of law and human rights,

Second, development as a tool for drug control;

- ▶ alternative development for supply reduction,
- ▶ demand reduction,
- ▶ law enforcement,

Third, drug control as a tool for development;

- ▶ measurable impact on basic needs and human priority,
- ▶ measurable impact on social, economic and ecological sustainability,
- ▶ measurable impact on participation and equitability,
- ▶ measurable impact on good governance.

The interrelationships between the above strategies may be summarized in Figure 5.

1.7 KY SON PROJECT: A CASE EXAMPLE OF AD

1.7.1 Site Description

Ky Son is one of the early UN-projects in the region where AD principles and concepts have been used to design and implement the Project in 1996-2000. The Project was officially inaugurated in May 1996 with a total of US\$3.8 million from UNODC and VND 5.0 billion from the Government of Vietnam. The Committee for Ethnic Minorities and Mountainous Areas (CEMMA), which is directly attached to the National Policy Decision, represents Project counterpart.

Ky Son is a remote district in Truong Son highlands of Vietnam. It locates at the end of highway no. 7A and shares the border with Xieng Khouang province of Laos. The total area is estimated at <200 000 ha but only a maximum of 15 % is suitable for cultivation. It is not surprising that the natural forest and land resources are degrading at rapid rates.

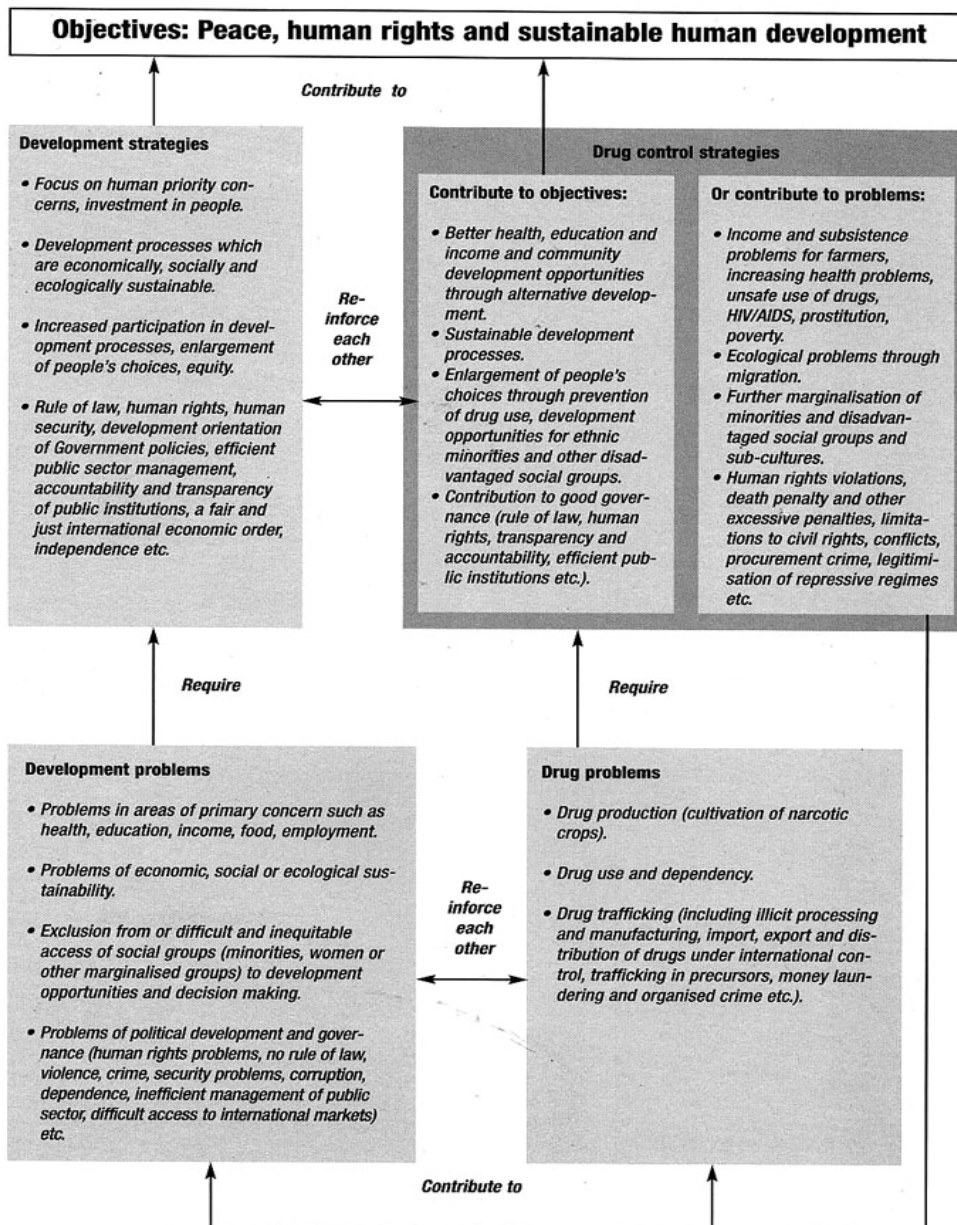


FIGURE 5: Conceptual framework for AD Projects in Southeast Asia.

Source: Berg (1998)

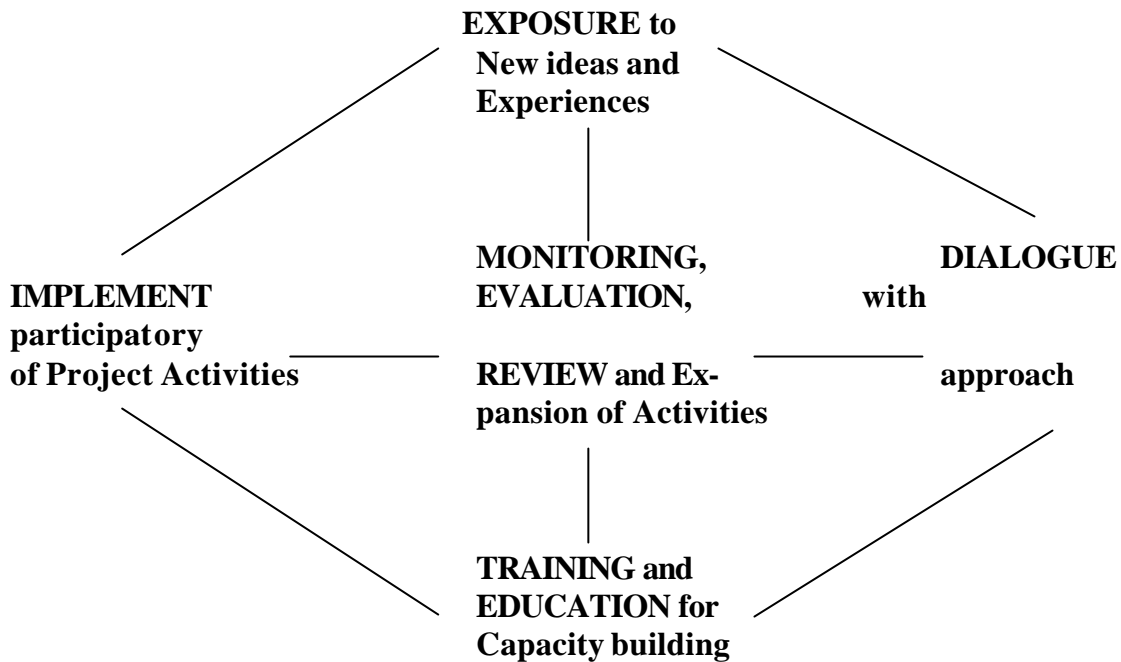


FIGURE 6: Project's implementation strategy, monitoring and evaluation with active local Participation: the Ky Son Modality.

Source: Boonwaat (2001)

With the existing poor infrastructure and road network for transportation, the area is one of the remote highlands in the country. The advantage of biophysical setting has made Ky Son as one of the major opium poppy growing area in the region. Opium poppy survey in 1993 showed that planted area of opium was as high as 2,800 ha. After the intervention of the Project, growing area of opium dropped sharply to insignificant level at 98.5 ha in 1997. Complete eradication was obtained after the second year of project implementation.

1.7.2 Project Objectives

Apart from alternative development objectives, the Ky Son Project was designed to strengthen national capacity to bring about the significant socio-economic changes, enabling smallholders to eliminate illicit cultivation of opium poppy and drug abuse. The Project was, then, serving as a model for opium poppy growing areas in Vietnam. Replicability is also essential to Project objectives.

1.7.3 Project Activities and Monitoring

At the outset of implementation, the Project has been able to conceptualize the overall framework for management, implementation, monitoring and evaluation (Figure 6). The Project employs active local participation to ensure sustainable development over the long run. The local participation is the core approach and it is applied to the Project at all stages of project cycle. The application of the approach is iterative process with active participation of Project beneficiaries, other stakeholders including local district officers

The full scale of Project review, monitoring and evaluation took place after the actual implementation of specific activity. The implementation strategy of the Project was designed as a development process with 4 major elements as follows.

- (1) *Exposure* that enables smallholders to have access to new ideas and successful experiences.
- (2) *Dialogue* which enables smallholders to exchange their ideas or experiences based on their own and new enrichment from exposure. This process allows smallholders' decisions to solve their own priorities. This requires participatory needs assessment and needs prioritization. In the process, community work plan might be developed to address local priorities. The linkage between community and district work plans could be matched to eliminate duplication and encourage the compliments.
- (3) *Training* was offered to increase local capacity building in achieving work plans.
- (4) *Implementation* was selective with key smallholders in the key communes to illustrate positive results for future large-scale extension phase.

Project monitoring, evaluation and review were carried out at all stages in the process in order to ensure effective implementation of Project activities. The identified activity was, then, started with some selected numbers of smallholders in strategic communities for demonstration of Project activity. For economic development activity, the Project has been able to implement and offer diverse options for alternative income and household food security to opium poppy. These options include

- ▶ Improved upland rice for self-sufficiency
- ▶ Improved paddy systems with HYV and supplement water supply
- ▶ Development of legume for sustainable agriculture and food supplement
- ▶ Improved cassava for improved feeds and high yielding with stress tolerant

- ▶ Improved maize for livestock
- ▶ Improved potato for income generation
- ▶ Introduction of industrial crops, e.g., Arabica coffee, improved tea and other annual or perennials
- ▶ Improved fruit trees and vegetables for home gardens
- ▶ Development of alternative agroforests for household requirement and sustainable practice
- ▶ Development of social forests for community management, utilization and environmental conservation
- ▶ Introduction of honey bees for alternative income generation
- ▶ Livestock breed improvement
- ▶ Livestock feed improvement
- ▶ Livestock disease control and prevention system
- ▶ Improved marketing
- ▶ Handicraft for alternative income

The above Project activity is highly diverse with elements of subsistence, combination crops and livestock, income generation alternatives from agriculture or non-agriculture, natural resource management and so on. The success could be evaluated with community participation at all levels, i.e., individuals, households, community, district offices and so on. Project invited some 14 national institutions and NGOs to provide technical assistance and monitor demonstration activity. In the iterative process of Project monitoring and evaluation, further expansion of Project activity could occur independently without Project support, e.g., farmers-to-farmers mechanism, contractual systems of producers and consumers and so on. Nevertheless, preparation of support for further expansion of Project activity will have to be available with strategic planning and implementation.

Project also employed heavy input from external consultants at all stages of Project cycle. External assistance was part of Project design and implementation. Ky Son Project also established active coordination and collaboration with national law enforcement agencies. The balance between alternative development and law enforcement for eradication has been kept between the Project and coordinating agencies with regular review and evaluation.

1.8 CONCLUSIONS

This training module outlines the conceptual framework for Alternative Development projects. It is based on the continuing process in developing Alternative Development (AD) paradigm. AD is a holistic concept and development approach. It differs from other development approaches, e.g., community

development or rural development paradigms. It has gone through a long process of over 30 years with lessons learned, experiences gained and future challenges. In this development process, the conceptual framework of AD shifted from merely a crop substitution programme to integrated rural development programme to complex alternative development programme. Apart from the distinction of AD project as drugs and drug control nature, AD addressed socially and economically sustainable human development with benign environmental setting. The Project is a vehicle for national and international policy to campaign against drugs and crime. Overall conceptual framework for alternative development is presented and discussed. A case of Ky Son Project in Vietnam is chosen as an example of AD project in the region to illustrate the application of AD concepts and conceptual framework for project implementation during 1996-2000.

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MODULE 2: DESIGNING AND IMPLEMENTING THE ALTERNATIVE DEVELOPMENT PROJECT MONITORING*

2.1 SCOPE OF THE MODULE

This training module defines designing, implementing and gives reasons for carrying out the alternative development (AD) project monitoring. The design elements of monitoring system are also discussed. The principles and guidelines of an efficient and effective monitoring system are presented in relation to the AD project monitoring. Key concepts and content are applied as a continuation of the group activities. At the end of this module, self-evaluation questions are provided to assess the trainee's learned knowledge, skills and competencies based on the learning objective stated.

2.2 LEARNING OBJECTIVES

After completing this module 2, the participants shall be able to:

- 1) Gain more understanding about the conceptual framework and basic principle of the AD project monitoring
- 2) Design and apply the effective project monitoring system under various setting such as diversion of biophysical, social and culture environment
- 3) List a set of guidelines of key process and strategies for an effective monitoring system in line with their respective AD project documents

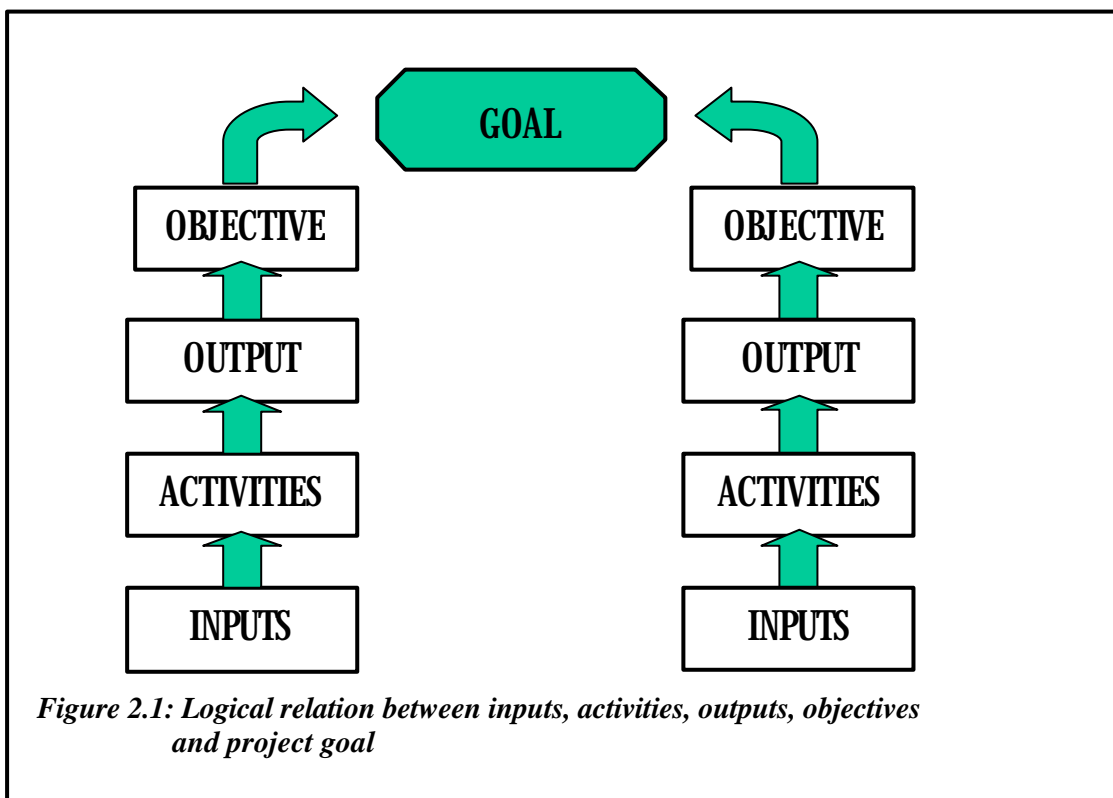
2.3 INTRODUCTION

Project is a set of planned undertaking that is designed to achieve a specific objective with given resources and within a specific time period. The objective of the project is the explicit and/or implicit of aims or goals. The resources are project inputs without regard to technical, financial or human resources. The project time frame is the time period that AD project started and ended, therefore it is not an on-going activity or a routine work. Meanwhile **the program is a group of projects that will lead to the achievement of a**

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broader scope of some policy results such as the elimination or alleviation of existing problems.

Progress reporting is necessary for all AD projects because it provides information for all stakeholders on the status of projects. Therefore, it is necessary to monitor the project implementation in order to report what is happening in the project. Information from monitoring results is reported to decision-makers for the necessary actions. These monitoring concepts have been applied extensively in the development work and form an essential part of the project planning and management. Project logical framework analysis facilitates the monitoring of projects by establishing linkages between the immediate objectives, outputs, activities and inputs of the project more clearly in a logical manner as shown in figure 2.1



2.4 PROJECT CYCLE

The terms used for the stage explanation of project cycle might vary considerably. But in his module, it will divide the stages of project cycle into six stages, namely project identification, project formulation, project appraisal, project approval, project implementation and project evaluation (figure 2.2). But for the new concept of the World Bank for project cycle, it divides the

stages of project cycle into four stages, namely project listening, project piloting, project demonstration and project mainstreaming. However, for more intuitively, the project cycle also divides into various stages according to the time frame of project namely, pre-project, project life and post project (figure 2.4).

The project is usually started from a broad idea and then later on it develops to be the first proposal. After it becomes the first proposal, it is debated, analyzed and further detailed. The project formulation may take time and sometimes incorporates a structural pre-investment study. Therefore, after passing the stages of project pre-feasibility study, project feasibility study and project appraisal, the project implementation stage will follow after the proposal is approved. Within the project implementation stage, the objectives, resources and the project time frame may change, but at the end of project some reflections about its outcome and impacts will be revealed.

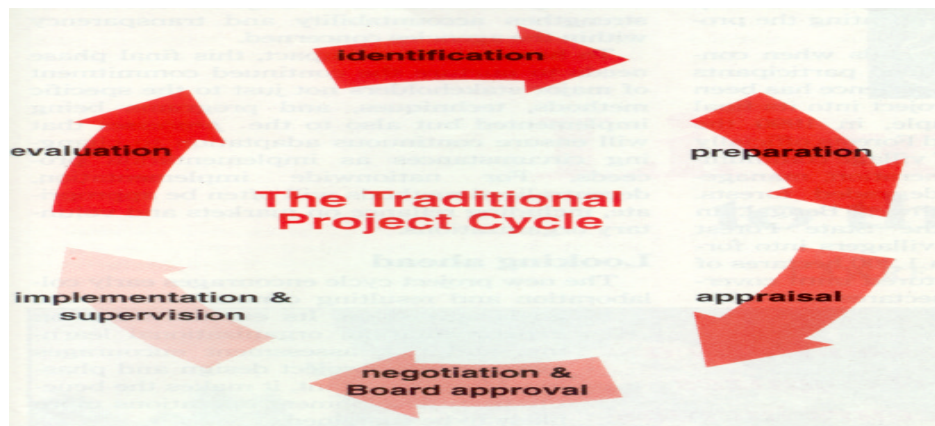


Figure 2.2: Conventional project cycle



Figure 2.3: New project cycle of the World Bank

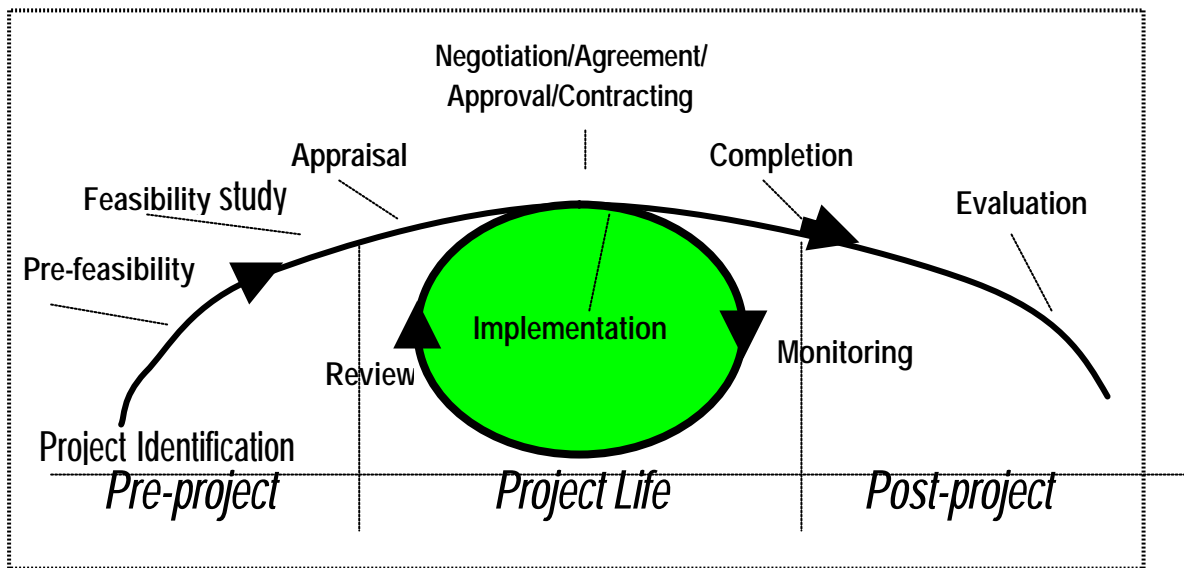


Figure 2.4: Details of conventional project cycle

2.5 UNDERSTANDING AND SETTING UP MONITORING AND EVALUATION SYSTEM

There used to be negative perceptions on monitoring and evaluation system such as cumbersome, a waste of valuable time among the professionals who work with the social services and development project/programs involving the project monitoring and evaluation. However, presently, these professionals including practitioners become enthusiastic supporters of the system because of the following reasons. Firstly, they understand that the main purpose of monitoring and evaluation (M&E) is the project improvement. Secondly, the recognition that M&E can be tailored to fit the specific needs of a project and its budget. And thirdly, they have a better understanding and mastery of the actual M&E processes.

Generally and in principle, the M&E can offer the following circumstances and/or situation:

- ✓ Monitoring assesses the quality, quantity and timeliness of the project input
- ✓ Monitoring identifies operational constraints to project effectiveness thus helping planners and project managers improve implementation
- ✓ Monitoring determines if a process or service, e.g. food fortification or illicit drug control is meeting national or some other accepted standards
- ✓ Monitoring provides information to improve project targets
- ✓ Evaluation helps to identify effects that are attributable to the project
- ✓ Monitoring and evaluation meet donor accountability requirements

- ✓ Monitoring and evaluation serve as a vehicle to increase community participation
- ✓ Monitoring and evaluation inform decision-making on the future of a project

The body of social science known as evaluation research is the systematic collection of information on the design, implementation and the effect of projects on the targeted populations (Rossi and Freeman, 1993). Ideally, the system and its process are divided into an ongoing monitoring system and periodic evaluation with the some special studies designed to answer some specific questions about the project. Monitoring is different from evaluation. M&E have different objectives but are related. Therefore, they require different design and implementation.

2.6 MONITORING DEFINITIONS

During the project implementation stage, it is necessary to monitor its development and progress. Monitoring is a planning and management tool which provides the project management with regular and continuous feedback that can be used to make decisions, manage the project more successfully and plan for better project activities in the future. Monitoring is a crucial part of the project management that will be carried out to observe the progress of the project implementation and to ensure that inputs, activities, outputs and external factors (such as the project assumptions) are proceeding according to the plan. Moreover, monitoring is also a tool to identify problems, which may occur during project implementation so that corrective measure could be taken before the project is affected adversely. Most funding agencies require some form of progress report that indicate or demonstrate the project achievements throughout the project life and at the termination of project. Good monitoring will also allow the project to be effectively evaluated, therefore it is a continuous process and periodic surveillance (for both observation and vigilance) of the project implementation.

Monitoring is concerned primarily with ongoing data collection and review of the AD project implementation on a regular basis throughout the life of project. The monitoring system can be used to assess the following AD project's indicators:

- ✓ the quality of project inputs and services, the timeliness of service delivery
- ✓ the extent that project activities reach the targeted individuals and communities
- ✓ the acceptability and actual use of the AD project services

- ✓ the cost involved in implementing the project/program
- ✓ the extent to which actual implementation of AD project coincides with the AD project implementation plan
- ✓ the overall progress, development and barriers of project implementation which are important input for the AD project supervision.

Monitoring data are often entered into the management information system (MIS) which, in turn provides information in an easy-to-use format to keep track of the AD project activities, budget and personnel. Information generated by the project monitoring system provides valuable clues where problems are occurring, why operation are succeeding or faltering and which specific aspects of the AD project need to be adjusted in order to improve targeting, coverage and implementation. Moreover, since the monitoring information is collected and reviewed at regular intervals, area of concern can be addressed as they arise and collective measures can be instituted, thus improving the chances for the AD project success.

However, one important characteristic of the AD project monitoring is that, in a well-functioning project, most data and information are already collected for the programmatic purposes so that establishing a monitoring system should not impose an additional burden. In an AD project for reduction of illicit drug crop cultivation, this would include ongoing reduction monitoring data, as well as, information on activities involving drug control dimension, income generation dimension, social and cultural dimension and environmental dimension. Another example, such as the integrated community-based nutrition project, the necessary data would include growth monitoring data, information on activity attendance, supplement, distribution and clinic referrals. While the monitoring information is used primarily for management decisions, it is also important to provide contextual information for evaluation.

Project monitoring clearly serves the interests of project/program funders, project manager and their staff and all the project beneficiaries, all of whom benefit from the improvement of project operations. However, some fears may cause resistance to project monitoring and evaluation. Project managers and staffs might fear of losing their jobs. Beneficiaries might be also anxious of losing their benefit when the funders find the negative impact from the monitoring and evaluation. Overcoming such resistance in monitoring is not always possible. However, experiences suggest that resistance can be reduced if the stakeholders of a project are involved in planning the monitoring process and reviewing the monitoring data. Since monitoring data are essential to effective AD project management, all projects should have a monitoring system in place.

2.7 REASONS FOR PROJECT MONITORING AND USEFULNESS OF PROGRESS REPORTS

There are various reasons that make the monitoring activities important and the progress report necessary. The monitoring is a crucial part of the project management as it is carried out to observe the progress of the project implementation in order to ensure if inputs, activities, outputs and project assumptions are proceeding according to the plan and if they are progressing forwards achieving the project objective. Monitoring is also a tool to identify problems that may occur during the project implementation, therefore the corrective measures could be taken before the project is affected adversely. Moreover, as a result of the monitoring, the progress reports provide a major information input to the project reviews.

2.8 PRINCIPLES AND GUIDELINE FOR MONITORING

As part of the project management, monitoring of inputs, activities and outputs should be implemented for the whole duration of the project. Assumptions that were made within the project logical framework should be monitored to ascertain their effect on the achievement of the stated outputs and objectives. The work plan indicates which activities are ongoing and should be monitored for the project progress. The monitoring plan should set measurable indicators of inputs, the activities and outputs to be used as milestones or performance standard for monitoring.

The example of measurable indicators of **inputs** in the case of AD project is the number of farmers receiving knowledge, the number of farmers using good seed, the distributed amount of fertilizer and pesticide and the amount the good seeds planted. The example of measurable indicators in the case of **AD project activities** are the number of training courses conducted, the number of farmers trained and the number of farmers who have access to the agricultural inputs delivered. The example of measurable indicators for **outputs** of the AD project is the number of farmers using high yield variety (HYV), the number of farmers using high and more productive techniques and the number of farmers reducing illicit drug crop cultivation (see figure 2.5).

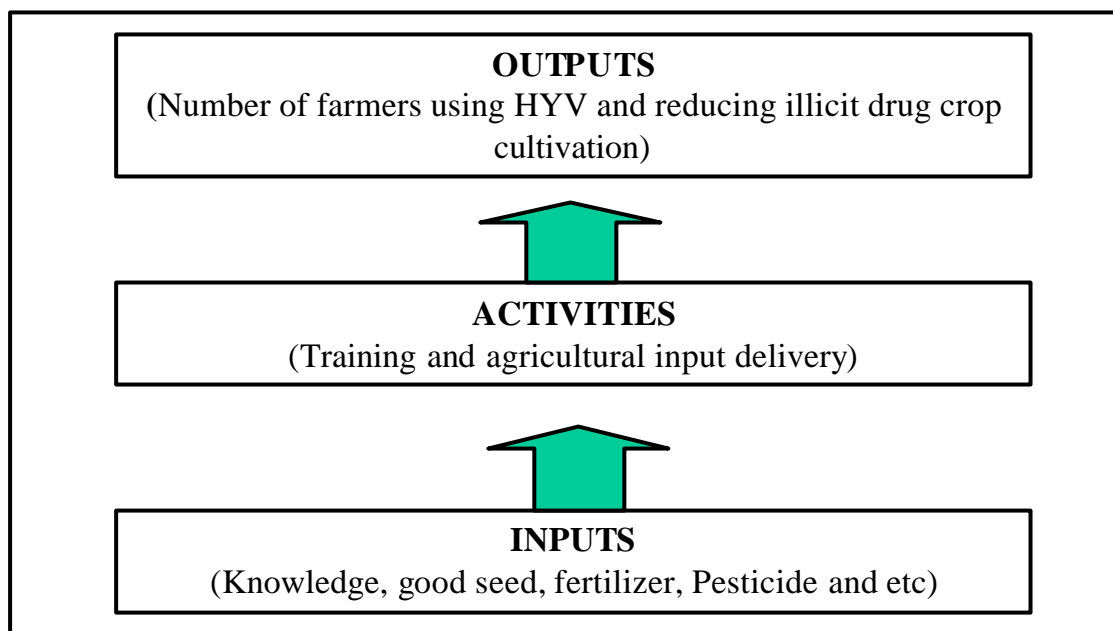


Figure 2.5: An example of inputs, activities and outputs of the AD project

A system of the self-monitoring such as a **self-monitoring** format of an annual work plan and the management information system (MIS) is needed and more desirable. The most important aspect is the early problem identification so that the corrective measures or actions can be taken at the good and appropriate time before the problems become too serious. Table 2.2 indicates the example of self-monitoring format of an annual work plan for the AD project. General guidelines for the project monitoring is, as it concerns with project management, it deals mainly with three aspects of the project over which it has control namely, input-activities-outputs as show in figure 2.6. **Assumptions** in the project logical framework should be also monitored to ascertain their effect on the achievement of the stated outputs and objectives. Assumptions could be an event, a condition or a decision which is necessary for project success, but which is largely or completely beyond the control of project management. However, the table 2.1 also indicates the guideline and some example of framework for the AD project monitoring and evaluation in term of inputs, outputs, outcomes, impacts and benefits. The project logical framework and in particular the work plan indicate which activities are ongoing and should be monitored in progress.

Monitoring is carried out at different levels. Monitoring information at the field level is regularly submitted to the project manager and all stakeholders for their considerations. Regular meeting of staff concerned with the project implementation is often the best means of monitoring at the field level and linking to higher management level such as steering committee. The results of

written monitoring reports have to be balanced with the provision of sufficient information to project staff level, manager and steering committee levels, but should not take too much extra time from project implementations. All project staff should be involved in the monitoring process.

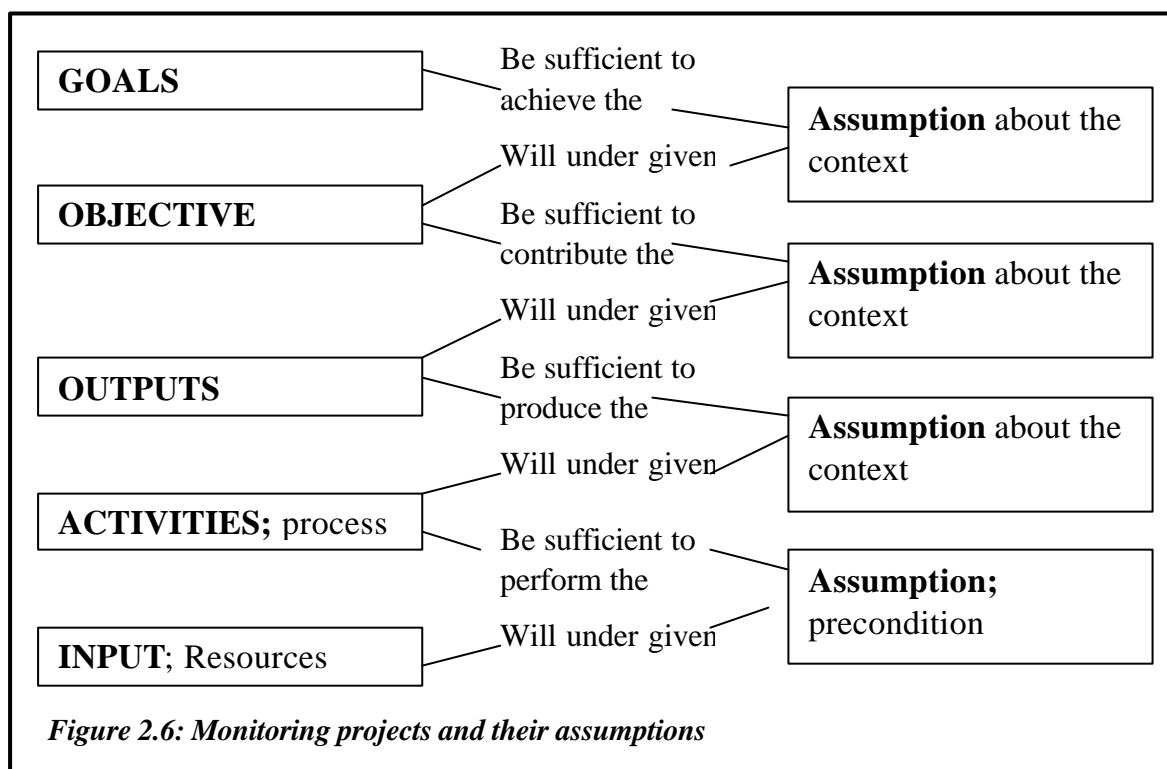


Table 2.1: *An example of framework for the AD project monitoring and evaluation in term of inputs, outputs, outcomes, impacts and benefits*

Inputs		Outputs		Outcomes	Impacts	Benefits
Assumptions		Assumptions				
Resources used to support the primary activities of the project	Expectations regarding the effectiveness and quality of the project inputs	The delivery of goods and services	Expectations regarding the ways these goods and services will be used by the target population	Changes in behavior and practices Links to the provision of goods and services to impact	Drugs status measures Effects resulting directly from project outputs or indirectly through outcomes	Broader effects Effects resulting from achievement of impacts, usually in combination with other factors

2.9 CONTENT AND EXAMPLE OF CASE STUDY

Examples for the monitoring process and strategies will be drawn from the presentation and discussion of the country participants and their AD project documents.

Table 2.2: An example of an annual work plan in monitoring form

Output/Expected Outcome/Major Activities/Activities	Responsible Body		Timing	Progress (what has been achieved?) /Results *(Have any problems occurred?)	Action to be taken** (what action will be taken to overcome the problem)
	Lead	Support			
Output (as stated in the project log frame), Expected Outcome/Indicators/Major Activities/Activities					
.....					
.....					
.....					

*Progress/results: what has been achieved? Have any problem occurred?

**Action to be taken: What action will be taken to overcome the problem?

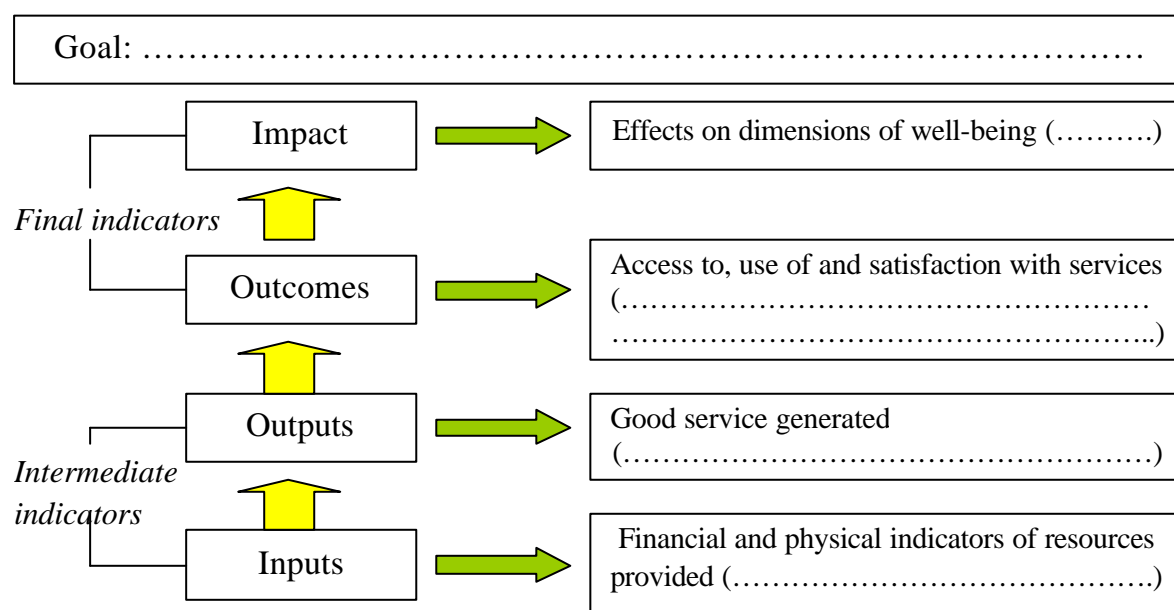
2.10 SELF-EVALUATION QUESTION AND EXERCISES

A) After completing Module 2, please answer the following questions:

- What are the objectives of monitoring?
- What are the conceptual frame work of the project monitoring?
- What are the differences between reach and impact?
- What are the differences between monitoring and evaluation?
- What are the general principles of monitoring?
- How often is monitoring carried out?
- What is monitoring?
- What items have to be monitored?
- What are the steps for setting up the project monitoring system?
- What are the frequent problems in tracking intermediate indicators?
- What are other issues emerged in tracking outcomes and impacts?
- Who should conduct project monitoring?

- Who will monitor the project, outsider or insider?
- What are weaknesses and strengths in using the outsider or insider monitor?
- Why do we need for the effective monitoring?
- What are the components of project monitoring design?
- Who did monitoring for specific items?
- How was project reporting done-formally or informally?
- What are the quantitative and qualitative components of monitoring?
- What are the differences between project inputs, outputs, outcome and impacts?
- What are the differences between final indicators and intermediate indicators of the project?
- Who is supposed to read the project reports?
- Do they read them? If not, why not?

B) Identify indicators according to the types that are relevant to the AD project (Using the conceptual framework as mentioned in module 1 as a guideline)



C) Identify key considerations for the following questions in the AD project monitoring

Questions to be asked	Key Considerations
What are the objectives of the project?	
How well are the target groups identified and reached?	
How to use the indicators?	

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MODULE 3: DESIGNING AND IMPLEMENTING ALTERNATIVE DEVELOPMENT PROJECT EVALUATION*

3.1 SCOPE OF THE MODULE

Similar to module 2, this training module defines designing, implementing and gives reasons for carrying out the alternative development (AD) project evaluation. The design elements of project evaluation system are discussed. The principles and guidelines of an efficient and effective evaluation system are presented in relation to the AD project. Key concepts and content units are applied as a continuation of the group activities. At the end of this module, self-evaluation questions are provided to assess the trainee's learned knowledge, skills and competencies based on the learning objective stated.

3.2 LEARNING OBJECTIVES

After completing module 3, the workshop participants shall be able to:

- 1) Gain more understanding about conceptual framework and basic principle of the AD project evaluation
- 2) Design and apply the effective project evaluation system under various setting such as diversion of biophysical, social and cultural environments
- 3) List a set of guidelines and strategies for an effective evaluation system in line with the AD project

3.3 INTRODUCTION

Effective project management and implementation would ensure that necessary information on the status of the project is provided to the stakeholders. For AD projects, various kinds of reports could be considered. They include the inception report, the interim report, the project termination report and the project impact evaluation report. In addition to monitoring, it is essential to carry out project evaluation to assess the extent of project development towards achieving the specified objectives. Information obtained from evaluation process will be reported to the project manager and higher

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level of policy decision-makers for the important and necessary corrective actions. These concepts of project evaluation have been applied extensively in development work and form an essential part of project planning and management. Logical framework of project analysis facilitates the evaluation of all AD projects by establishing linkages between the goals, immediate objectives, outputs, activities and inputs of a project more clearly in a logical manner as shown in figure 2.1 of the module 2.

3.4 OBJECTIVE OF EVALUATION

Evaluation in project operations is carried out for at least 3 purposes as follows: First it provides information for decision-making on any improvements needed for project management and implementation. Second it assesses the results of the project/program to demonstrate to what extent the project/program has achieved its objectives. Third it serves as a mean to empower the communities and other project stakeholders of the AD projects. The flows of information are central to evaluation process and constitute an empowerment agenda that includes transparency (availability and access to information), accountability (use and application of information) and inclusion/participation (where communities are given control over decision-making) including decisions on the appropriate criteria and indicators to judge the performance of service provision

For a flexible and responsive AD project, evaluation needs to be more than just a reporting mechanism, but it serves as a management tool and as a means of advancing the project goals for accountability, transparency and partnership. The evaluation systems should incorporate both statistical data and feedback from the participatory assessments. Moreover, the evaluations should be done continuously through every phase of the project such as inception, interim and termination or completion periods. Systematic evaluation of project/program processes and outcomes are particularly important where project/programs are being scaled up. Evaluation systems also supply the necessary information and feedback so that potential bottlenecks or problems are identified and overcome early before becoming constraints to project expansion and replication.

3.5 EVALUATION DEFINITIONS

Evaluation is a field of applied science that seeks to understand how successful the projects are and to what extent they fulfill the objectives. The

information collected during mid-term evaluation will also allow the project manager to make informed decision concerning a project's worth and provide the opportunity to capitalize on project strengths. In addition, the feedback process that occurs during evaluation will allow the project manager to fine-tune the project and make it more effective.

Project evaluation process is a one-time systematic and independent examination of AD project. Project evaluation is conducted in order to determine the achievement level of its objectives, its efficiency, its cost effectiveness and impact on the project sustainability. The project evaluation should indicate whether the existing AD project is and/or has the problems that was originally identified and formed the basis of the project. The evaluation measures and analyses the performance of the AD project to find out their effects and impacts on direct target beneficiaries. Moreover, it also tries to quantify the expected changes against the achieved changes, which are defined by project objectives and goals.

An evaluation will allow documenting what happened in the AD project, telling which strategies worked best in the project and assessing the short-term and the long-term outcomes of the project. Evaluating and improving a project takes effort. It takes discipline, wisdom, persistence and critical mind. At times, this process may seem slow and time consuming. Project improvement and better services are the results of the thoughtful collaboration between funders and service providers on an appropriate strategy for evaluating accountability. Thus it would take time. The end result of the hard work will yield a stronger and more effective AD project.

Project evaluation helps decision-makers to be responsible for planning, designing, and implementing projects/programs. It allows the decision makers to understand whether resources were well spent, the planned outcomes were achieved and procedures were followed. The three functions of evaluation are firstly, to distill lessons learned for future operations and disseminate them internally and externally, secondly, to ensure accountability for the use of resources to improve development effectiveness and thirdly, to follow up on evaluation recommendations to sustain project benefits. In brief, project evaluation seeks to measure the project effects; i.e. whether and to what extent the AD project's inputs and their services are improving the quality of life of the target groups.

Evaluations also provide information on the changes in behavior and conditions of targeted communities and individuals (Rossi and Freeman, 1993) by assessing the effectiveness of the AD project in attaining its originally stated intermediate and overall objectives. Evaluation may also reveal unexpected

findings of positive and negative effects and impacts which can be used to alter and improve the AD project design and implementation. Generally, following an initial baseline survey, one or two midterm evaluations take place in the mid stage up to the late stage of an AD project. An end point or a terminal evaluation is conducted upon the AD project completion or at the end of the funding cycle. Ideally, there should be an efficient ongoing monitoring system in place from the starting point of the AD project. If such monitoring system indicates that implementation is proceeding reasonably well, the formal evaluation can be limited to verification of the monitoring system and provision of information on the outcomes and impacts of AD project.

In the absence of a reliable and comprehensive monitoring system, however, at the ending point, the AD project evaluation would have to include an explicit assessment of the project implementation process to determine the extent to which the target population actually reached and the service was delivered. Without this information, any absence of positive impacts will leave the question unanswered whether the problems were structural defect or faulty implementation. Similarly, even positive results cannot be attributed to the project/program interventions when information about the process is absent.

3.6 THE DIFFERENCE BETWEEN MONITORING AND EVALUATION

Even though the monitoring and evaluation are complementary, they have two distinct processes. Monitoring follows a management model with a focus on improving day-to-day project operation. Evaluation uses a research model to assess the extent to which project objectives have been met or surpassed. However, monitoring and evaluation are most effective as interwoven activities. They can provide information that will help decision-makers to choose an appropriate course of actions for the future of project or on direction of the future projects. Depending on the M&E findings, decision-makers may decide to do the following activities. Firstly, they can continue the project, either as it is currently implemented or revised. Secondly, they can expand the project by increasing the implementing area and target population. Thirdly, they can replicate the project in a new setting and/or to curtail the project and reallocate resource elsewhere.

In some cases, evaluation or much more accurately assessment is tacked on to the end of the AD projects to examine project implementation and their impacts. The evaluation process in this circumstance is rarely capable of evaluating project's impacts and is likely to create resentment among stakeholders. By contrast, M&E should be built into the project during the

designing stage. Project planning should always include the development of M&E systems. By incorporating M&E from the beginning, project staff and manager will be providing themselves with thorough and ongoing feedback system that will allow them to make timely management decisions without waiting for the results of an evaluation. At the same time, early planning means that a valid baseline survey should be conducted to gather information on pre-project conditions. This will enhance the credibility of the findings of the terminal evaluation. Initiating an evaluation after the project is under way makes it more difficult to attribute changes in behavior or condition to the project or quantify the magnitude of the change. Both monitoring system and evaluation are most useful if they are incorporated into the AD project from its inception.

There are 3 options for restructuring M&E responsibilities; firstly contracting external monitoring and evaluation personnel, secondly having a mix of external and internal project personnel, and thirdly relying on the project personnel alone. Table 1 shows the role of M&E throughout the life cycle of a project. In general the more external the process becomes, the more objective it is likely to be. At the same time wholly external evaluation are often out of touch with the project realities and with ongoing monitoring process. Wholly internal process will assure full familiarity with the context and its nuances, but are often considered inadequately objective by decision-makers and other observers.

Additionally, the in-house option may not have all of the expertise necessary for systematic evaluation process. Therefore decision about the internal/external balance in an evaluation will vary from project to project. For large and expensive project, it may well be worth contracting with an external institution that would be actively involved in evaluation related to the activities throughout the project life cycle. For medium-sized project, it may not be necessary to have an external institution involved, therefore the quality checks on monitoring data would be carried out by M&E staff and special studies would be contracted out or conducted internally. For smaller projects, an external evaluator who is a single individual with M&E expertise would be present at the beginning of the project to advise on the M&E system as a whole. However, the external evaluator would then rejoin internal M&E personnel at the conclusion of the project. Whenever an external entity or individual is utilized, care should be taken to provide clear terms of reference and necessary documentation. Moreover, regardless of which M&E staff restructuring is employed, relevant training of those responsible for M&E operation is essential to ensure quality data collection, analysis and interpretation and effective action.

Table 3.1: Role of M&E throughout the project life cycle

Descriptions	Project stage		
	Planning or redesign phase (M&E)	Implementation phase (M)	Late Implementation or Post project phase (E)
Focus is on	<ul style="list-style-type: none"> <input type="checkbox"/> The design of the project and how it will improve the lives of particular population group who involving with the reduction of illicit drug crop cultivation, including with drug control, income generation, social and cultural and environmental dimensions 	<ul style="list-style-type: none"> <input type="checkbox"/> Project coverage, delivery, costs, intermediate outcomes and other management concerns 	<ul style="list-style-type: none"> <input type="checkbox"/> Determining the intermediate outcomes and more substantial impacts of the project on people's lives.
Types of questions to be answered by M&E	<ul style="list-style-type: none"> <input type="checkbox"/> Are the goals, objectives and activities appropriate in light of the project's context? 	<ul style="list-style-type: none"> <input type="checkbox"/> Are the specific inputs and services reaching the targeted population and on time? 	<ul style="list-style-type: none"> <input type="checkbox"/> What, if any, are the outcomes and/or impacts of the project on the targeted populations?
	<ul style="list-style-type: none"> <input type="checkbox"/> Are the project inputs and activities including training and materials likely to achieve these objectives? 	<ul style="list-style-type: none"> <input type="checkbox"/> Are inputs the desired quality? 	<ul style="list-style-type: none"> <input type="checkbox"/> Have the originally started objectives and goals been met by the project?
	<ul style="list-style-type: none"> <input type="checkbox"/> Will the project's monitoring and evaluation system produce the information needed for critical decision-making? 	<ul style="list-style-type: none"> <input type="checkbox"/> Are inputs being well used by the population? 	<ul style="list-style-type: none"> <input type="checkbox"/> What other effects (intended or unintended) did the project have on local communities, project staff, or government policies?

	<input type="checkbox"/> Are the criteria used for targeting appropriately?	<input type="checkbox"/> Do actual project activities correspond with those spelled out in project design or implementation plan?	
Types of questions to be answered by M&E		<input type="checkbox"/> Where are the project costs, and do they correspond to the budget plan? If not, what components of the project are over and under budget?	
		<input type="checkbox"/> Is there evidence of short-term and intermediate outcomes that will produce long-term impacts?	

Source: A guidebook for the nutrition project management in developing countries, The World Bank, 1999

3.7 CONCEPTUAL FRAMEWORK FOR PROJECT EVALUATION

The evaluation of the AD project is actually intended to be both formative and summative. Such evaluation should provide the project managers with useful information for their decision-making that will improve the outcomes of the project. The evaluation process should also provide the project stakeholders, participants and individuals who are interested in the projects with some useful information to determine whether the project was worthwhile for the resources, or whether it should be expanded in the subsequent phase, perhaps with credit or loan financing. The evaluation of the impact of project will be both quantitative and qualitative.

3.7.1 Quantitative Component

The quantitative component will use inputs, process and output indicators.

Input indicators will include amounts and costs of invested resources (e.g. The number of farmers who are trained per year in each village or area, and the number of effective farmers who access to alternative HYV cash crop),

types of activities financed in training, monitoring and fund raising (e.g. The number of villages, linking areas, and farmers who are trained in each area).

Process indicators will likely include the number of collaboratives AD project pursued by the target area or village in each region, the number of collaborative school-to-school projects pursued by schools in each area, the volume of knowledge exchange, the number of workshop, and etc.

Output indicators will focus on the outcomes of opium and illicit drugs such as the area of opium cultivation and drugs abuse reduction. Taking an educational project as an example, the indicators will include the standardized test results in reading, writing and mathematics skills, such as the final examination pass rates and scores, the number of students who took the examination, the number of repetition to take examination, and the dropout rates. However, it is generally accepted that these indicators are extremely difficult to correlate directly to the project inputs. Output indicators are also intended to over time address the impacts of production and harvesting technology upon the productivity of alternative HYV cash crops so as to permit the initial crude cost-benefit estimates. This may be assessed through proxy tracer studies which provide similar outcomes as those developed under AD project.

3.7.2 Qualitative Component

The qualitative component will also use input, process and output indicators for evaluation. The **input indicators** will include numerous variables such as the following indicators:

The initial farmer's motivation to participate with the AD project, the numbers of farmers who participated with a training program provided by the AD project, the farmer's impression on a training program, quality of production material and/or inputs that are delivered to farmers by the AD project, the farmer's socio-economic and their demographic characteristics (e.g. family size, size of farmland and location, farm type and the assessment level to agricultural inputs and training program).

Process indicators might include answered variables obtained from the following questions such as frequency and duration of utilization of the provided agricultural information and related technology; quality of inputs covered in using new technology, difficulties encountered by farmers including frequency and duration of collaboration with other farmers within and outside their own village, types of activities performed in the field, organizational

conditions of farmer group, contributing factors of success in participation, the changes in pedagogical processes due to introducing alternative HYV cash crops to villagers in each area.

Qualitative output indicators may include farmers' satisfaction, ability to transform marketing information and to represent it dynamically, farmers' ability and willingness to share resources and work collaboratively. The evaluation component will also be country-specific and comparative in design, so that each country's information responds to national evaluation needs and can be synthesized to assess global program impact. It will also be multi-year or longitudinal, so that the cumulative effects of the program can be tracked over time and gradual adoption/integration of on-farm technology into the village can be measured. Finally, the evaluation component should serve to build local capacity to evaluate on-farm technology initiatives. Wherever possible, local evaluators will be used; if necessary, they will be paired with evaluators from the same region and/or world-class evaluators. Meanwhile, reach and impact is beyond the outcomes, an evaluation must also address the issues of reach and impacts. Reach comprises the number and the type of beneficiaries (actual/potential; direct/indirect; positive/negative; urban/rural; male/female). Impact covers the consequences of participating in the project (actual/potential; intended/unintended; direct/indirect; immediate and long-term)

3.8 TYPES OF EVALUATION

There are 4 major types of evaluation, namely 1) the inception evaluation, 2) the interim or midterm evaluation, 3) terminal or completion evaluation and 4) post project or impact evaluation.

The **inception evaluation** is conducted after the starting of the first year of project implementation. It helps to review the first period of the project progress.

The **interim or midterm evaluation** is done at the mid-way of the project period. This exercise helps to review the progress in term of what are being achieved with regard to expected effects, therefore on the basis of reviews the corrective measures are taken.

Terminal or completion evaluation is generally done at the end of project period and it is usually taken to indicate what has been achieved by the project funding sources.

Post or impact evaluation is done a few years after the completion of the project implementation. This evaluation exercise will be conducted after such AD project became a routine or regular work that is about 2-3 years after the project termination in order to evaluate the extent to which the project has contributed in achieving the broader national development objectives. Therefore, this latter evaluation also refers to as the impact evaluation of the AD project.

3.9 GUIDELINES FOR PROJECT EVALUATION

As evaluation is concerned with the effects or the immediate objectives and goals, it is not taken so regularly or frequently as monitoring. Obviously, one of the objectives to be evaluated is the achievement of higher productivity. Maybe, after some of the farmers have received training and delivery of production inputs such as good seed, fertilizer and pesticide. In this case, there is a need to evaluate the effects of that output such as to what extent does the productivity of those farmers increase? Is the increase in productivity as much as expected? If not why? Can corrective actions be identified? And can adjustments be made to project implementation?

Once the above-mentioned information are available and the expectation of evaluator are not being achieved, then it is needed to investigate the reasons for it, whether any external conditions constraints the effect. The purpose of on-going evaluation such as inception and interim is to identify any problems, which constrain the effects and try to solve them. The project management itself conducts this type of on-going evaluation. The midterm evaluation is more systematic and is conducted by the external evaluator. This also permits the project management to make mid-course corrections in the way the project implemented.

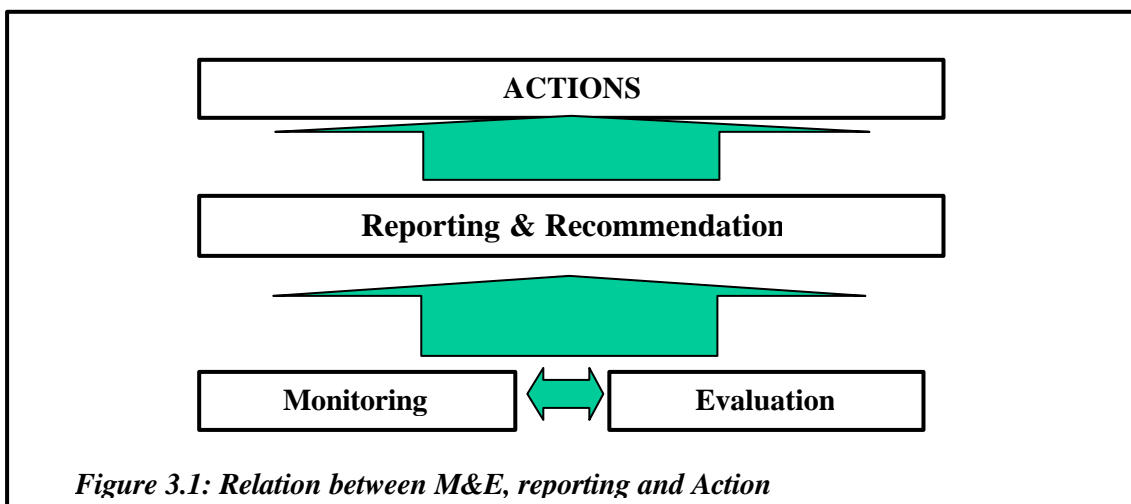


Figure 3.1: Relation between M&E, reporting and Action

The terminal or completion and post or impact project evaluation makes an analysis of the impact of the AD project with regards to the achievement of its objectives and goals. Although, the same as in monitoring, an evaluation is also based on quantitative and qualitative data, the analysis is more in-depth and requires good interpretation of what the data shows. Reporting the results of evaluation exercises to the appropriate persons or organizations is necessary so that appropriate and timely actions on the recommendations will be taken. Moreover, such evaluation results will be useful to acknowledge and give credit to the project patrons and participants and to keep public informed about what happening on the AD project (figure 3.1)

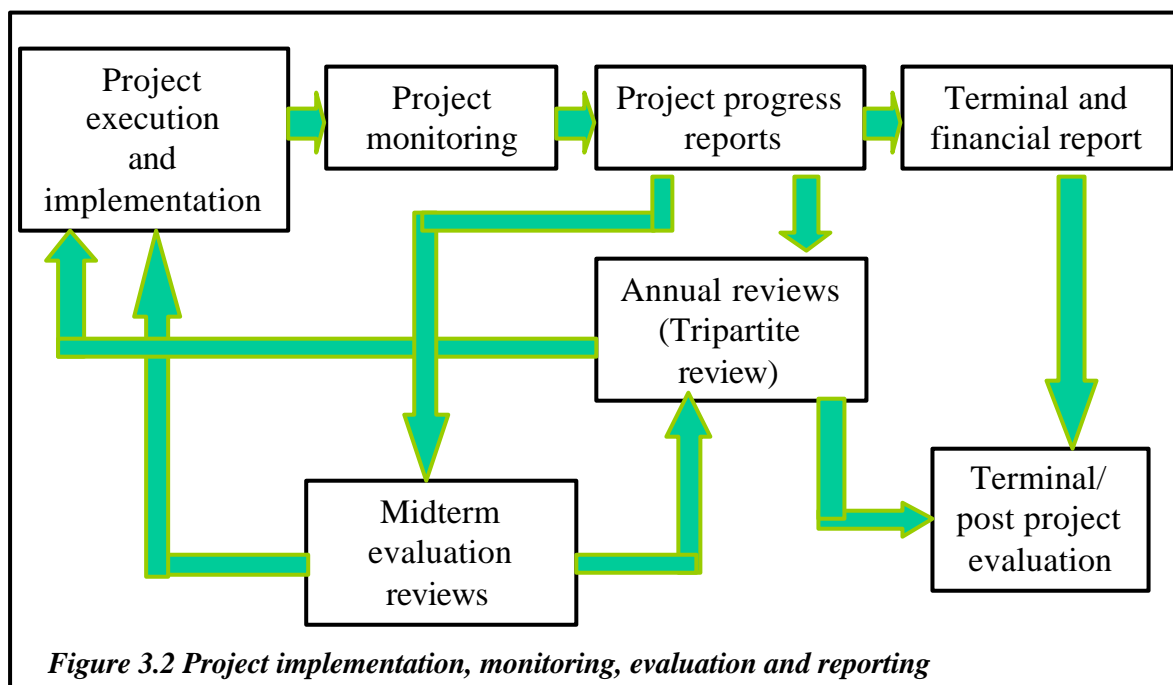
3.10 GUIDELINES ON PROJECT EVALUATION AND REPORTING

The primary substantive and technical responsibility for evaluation rests with the executing agency. When the funding agency does not execute the project, then it has a role of managerial overview. Among the procedures to monitor project, tripartite reviews are especially important. All the parties involved in the project implementation attend this type of project review or evaluation. The **tripartite review** is a formal, periodic mechanism to review the progress made by the project in order to take decisions for the future, try to determine the responsibility for implementing those decisions and to set related deadlines. An agenda should be prepared by the project management and approved by all parties prior to the meeting.

A typical outline for project evaluation includes the following items such as the progress report made by the project staff towards the achieving project objectives; the project concept and design that considered as a continuing relevance to the AD project and any possible adjustment; the operational issues; the project work plan until the next review or evaluation; the recommendations and decisions for example such that the identifying actions required; the parties responsible and the project time frame for implementation and the need for project re-evaluation, if applicable.

A project performance evaluation report is prepared by the AD project management in accordance with the time frame indicated in the AD project document, which is usually once a year. The report describes the achievement records and major issues faced by the project. It also includes the achievement of the implementation of the work plan. This performance evaluation report is used as a basis of the discussion in tripartite reviews and may make recommendations for discussion at review meetings.

Usually, the UNODC required the AD project progress reports normally in the middle and at the end of each calendar year. The reports summarize the status of the project implementation, the progress towards achievement of its objectives and goals, the problems encountered and any actions taken to address them. A tripartite meeting is a mechanism to review the progress of the projects implementation. The annual review activity is done through the study of the AD project reports, contacts with project staff and their counterparts and analysis of fund and resource disbursement patterns. Criteria and procedures for the AD project evaluation are set forth in a project/program advisory note on an evaluation policy and their procedures. The figure 3.2 explains positions of project monitoring, evaluation and reporting in context of the UNODC project cycle.



3.11 CONTENT AND EXAMPLE OF CASE STUDY

Examples for the evaluation process and strategies will be drawn from the presentation and discussion of country participant and their AD project documents

3.12 SELF-EVALUATION QUESTION AND EXERCISES

A) Please answer the following questions after going through Module 4 of the Training Manual:

- What are the objectives of evaluation?
- What are the conceptual framework for the project evaluation?
- What are the differences between reach and impact?
- What are the differences between monitoring and evaluation?
- What are the general principles of evaluation?
- How often was an evaluation carried out?
- What is evaluated?
- What items have to be evaluated?
- What are the steps for setting up the project evaluation system?
- What are the frequent problems in tracking intermediate indicators?
- What are the other issues emerged in tracking outcomes and impacts?
- Who should conduct the project evaluation?
- Who will be the project evaluators -outsiders or insiders?
- What are weaknesses and strengths in using the outsider or insider evaluator?
- Why do we need to have effective evaluations?
- What are the five components of evaluation design?
- Who does the evaluation for specific items?
- How is the project evaluation reporting done -formally or informally?
- What are the quantitative and qualitative components of evaluation?
- What are the differences between project inputs, outputs, outcome and impacts?
- What are the differences between final indicators and intermediate indicators of projects?
- What are the main types of evaluation?
- What is the participatory approach of project evaluation?
- Why are we interested in participatory approach for project evaluation?
- What are the differences between the conventional project evaluation and participatory approach of project evaluation?
- How to assess the impacts in evaluation?
- Who were supposed to read the project evaluation reports?
- Did they read them? If not, why not?
- If you were to conduct an evaluation 3 years after the completion of project, what would you be looking for and evaluating?

B) Identify the project objectives, expected output, indicators, outcome and activities that are relevant to the AD project

Project objectives	Expected output	Intermediary indicators	Outcome/ Impact indicators	Monitoring and evaluation activities

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MODULE 4: PEOPLE’S PARTICIPATION: HOW DO WE GO ABOUT IT?*

4.1 SCOPE OF THE MODULE:

The scopes of this module are

1. To indicate the importance of “*People’s Participation*” in AD Projects
2. To provide the overview of past lessons and experiences with Participation Approaches
3. To give some specific guidelines for the conduct of Participatory Appraisal for Monitoring and Evaluation of AD Projects

4.2 LEARNING OBJECTIVES

The learning objectives are:

1. To improve the monitoring and evaluation of AD Projects using People’s Participation approaches
2. To increase professional capacity of AD Project Managers and Key Project Personnel in charge of monitoring and evaluation with practical implications for carrying out their tasks in their own Projects with the incorporation and integration of People’s Participation in all stages of project cycles

4.3 INTRODUCTION

People’s participation has a long historical account in a wide range of development projects. Both national and international agencies have had much effort to involve people in some respect of planning and implementation. Community participation may be viewed as a means to increase project efficiency. If people and community are involved, they are likely to agree with and support the new development project or services. People and community participation aims to initiate mobilization for collective action, empowerment and institution building. Many of the development projects have been able to show that “participation” is one of the critical components of success in irrigation, livestock, water resource and

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agricultural projects (Pretty 1995). This might be the main reason that the term “people’s participation” is part of the normal language of many development agencies, NGOs, government offices, the banks and so on.

4.4 TYPES OF PARTICIPATION

There are several ways that people and organizations interpret and use the term, people’s participation. These have been more or less resolved to 7 clear types of participation (Table 1). They range from the extreme *passive* to *self-mobilization* participation. In passive participation people are involved with activities only by being told what is going to happen, while in self-mobilization participation, people take initiatives independently of external institutions.

The terms of participation from this typology should not be simply accepted without appropriate qualification. If the objective of the project is sustainable development, nothing less than *functional* participation will suffice. People’s participation is considered as an instrument of project development. People are involved in different stages of project cycle in many different ways. For irrigation projects, people’s participation could be obviously illustrated as the most significant factors contributing to project effectiveness, maintenance of water systems and economic return (Cernea 1985).

Table 1: Typology of participation: how people participate in alternative development projects.

Typology	Characteristics of each type
Passive participation	People participate in activities by being told what is going to happen or has already happened. It is unilateral announcement by an administration or project management without listening to people’s responses. The information being shared belongs only to external AD projects.
Participation in information giving	People participate in activities by answering questions posed by extractive researchers, using questionnaire surveys or similar approaches. People do not have the opportunity to influence on proceedings, as the findings are neither shared nor checked for accuracy.

Typology	Characteristics of each type
Participation by consultation	People participate in activities by being consulted and external AD agents listen to people's views. These external agents define both problems and solutions, and may modify them in the light of people's responses. Such a consultative process does not concede any share decision making and professionals do not have obligation to follow the views of the people.
Participation for material incentives	People participate by providing resources, for example labour for road construction, in return for food, cash or other material incentives. Much on-farm R&D falls in this category, as farmers provide the fields but are not involved in experimentation or on-farm testing or other learning processes. It is very common to see this called <i>participation</i> , yet people have no stake in prolonging activities when the incentives end.
Functional participation Interactive participation	<p>People participate by forming groups to meet predetermined objectives related to AD projects, which can involve the development or promotion of externally initiated organization. Such involvement is quite rare at early stages of project cycles or planning, it often appears after major decisions have been made. These institutions tend to be dependent on external agents, initiators or facilitators, but may become self-dependent later on.</p> <p>People participate in joint analysis, which leads to action plans and the formation of new community organization and local institutions or strengthening the existing ones. It has a tendency to involve interdisciplinary methodologies that seek multiple perspectives. Therefore, people have a stake in maintaining AD infrastructures or AD practices such as vegetative strips for SWC as alternative to opium-based pioneer shifting cultivation practices in TG-HDP during 1987-96 (Steve Carson 1996, cited in Pretty 1998)</p>
Self-mobilization	People participate in the development with self-initiative and control over the changes of the community. They may develop contacts with external institutions for resources and technical advices they need, but retain control over how resources are used. Such self-initiated mobilization and collective action may or may not challenge existing inequitable distributions of wealth and power.

4.5 PARTICIPATORY METHODS AND APPROACHES

For the past 15 years or so, there has been a rapid expansion of the new participatory methods and approaches in the context of AD development projects.

Many of these methods and approaches have drawn on many long-established traditions that have put participation, action research or adult education in forefront to eliminate disempowered local people and community. To a wider audience in development programmes, projects or initiatives, the participatory approach represents a real departure from standard or conventional practices.

The interactive involvement of many people from different institutions or differing institutional contexts could promote innovation and ownership. There are many ways to promote the interactive involvement and these may be compiled in Box 1. Participatory Rapid Appraisal (PRA), for example, is now practiced widely and could be found across the region in AD Projects. This helps to improve the practice and strengthen the methodology through its complexity and diversity. In short, participatory approaches are offering alternative systems of learning and action in development.

Box 1. Samples of terms and names of new approaches for alternative systems of learning and action in Development.

Agroecosystem analysis (AEA), **Beneficiary** or **Needs Assessment**, **Community-based Land Use Planning and local Watershed Management (CLM)**, **Community-Based Drugs Abuse Control (CB-DAC)**, Development Education Leadership Team (DELTA), Diagnostico Rurale Participativo (DRP), Farmer Participatory Research, Groupe de Recherche et d'Appui pour l'Auto-Promotion Paysanne (GRAAP), Methode Acceleree de Recherche Participative (MARP), Participatory Analysis and Learning Methods (PALM), Participatory Action Research (PAR), **Participatory Land-use Planning (PLP)**, Participatory Research Methodology (PRM), **Participatory Rapid Appraisal (PRA)**, Participatory Urban Appraisal (PUA), Planning for Real, Process Documentation, **Rapid Appraisal (RA)**, Rapid Assessment of Agricultural Knowledge Systems (RAAKS), Rapid Assessment Procedure (RAP), Rapid Assessment Techniques (RAT), Rapid Catchment Analysis (RCA), Rapid Ethnographic Assessment (REA), Rapid Food Security Assessment (RFSA), Rapid Multi-perspective Assessment (RMA), Rapid Organizational Assessment (ROA), **Rapid Rural Appraisal (RRA)**, Samuhik Brahman (Joint trek), Soft Systems Methodology (SSM), Theatre for Development, Training for Transformation, and Visualization in Participatory Programmes (VIPP)

Sources: Grandstaff and Grandstaff (1986), Pretty (1995), TG-HDP (1996), Tankimyong (1990) and Albrecht et. al. (1996)

Notes: 'Bold' letters indicate approaches commonly used in planning, implementation, monitoring and evaluation of AD Projects in the region.

Common principles to unite the diversity of participatory approaches (Pretty 1995) can be identified and summarized in bullet points as follows.

First, a defined methodology and systematic learning process

- ▶ focus on cumulative learning, systems of inquiry and interaction
- ▶ employ the methods in participation manner

Second, multiple perspectives

- ▶ seek diversity rather than characterize the diversity and complexity in terms of average values
- ▶ differ evaluation of the situations, leading to different actions

Third, group learning process

- ▶ Group inquiry and interaction
- ▶ Mixed investigators or interdisciplinary team, i.e., people from different disciplines, from different sectors, outsiders (professionals) and insiders (local people)

Fourth, context specific

- ▶ Choose approaches that are flexible and adaptive to cope with the new set of conditions and actors

Fifth, facilitating experts and stakeholders

- ▶ Bring about the transformation of existing activities or even the changes
- ▶ Effectively use the role of ‘**experts**’ who might be stakeholders or local people themselves

Sixth, leading to sustained action

- ▶ Debate about changes and the changes in actors’ perceptions
- ▶ Bring about improvement and seek to motivate people to take action to implement the defined changes
- ▶ Lead to capacity building and strengthening institutions.

4.6 PARTICIPATORY/RAPID RURAL APPRAISAL (P/RRA): Field Tools and Methods for Alternative Development Projects

Many tools and methods can be drawn from a wide range of action research and development experiences and adapted to new needs. Others are innovations arising out of situations where practitioners have applied the tools and methods in a

new and specific setting, context and target community themselves. Nevertheless, these tools and methods may be structured into 4 categories

- (1) for group and team dynamics;
- (2) for sampling methods or techniques;
- (3) for interviewing and dialogue; and
- (4) for visualization and diagramming methods.

Examples of participatory field methods and tools are compiled in Table 2. Participation calls for the collective analysis. Sole researcher, development worker or extension worker must work closely with local people and community that are often called ‘beneficiaries’, ‘subjects’, ‘respondents’ or ‘informants’. Ideally, teams of project staff, investigators or evaluators work together as interdisciplinary and intersectoral teams. Group efforts help to approach the situation from the different perspectives, carefully monitoring one another’s works and increasing capacity to conduct a variety and diversity of tasks simultaneously. Group efforts are powerful if they function well.

Table 2: Participatory field methods and tools

Group and Team Dynamics	Sampling methods/ tools	Interviewing and dialogue	Visual tools and diagramming
Team contracts	Transect walks	Semi-structure interview	Mapping and modeling
Team reviews and discussions	Wealth ranking and well-being ranking	Direct observation Focus group	Social maps and wealth ranking Transects
Interview guides and Checklists			
Rapid report writing Energizers	Social maps Interview maps	Key informants Ethno-histories and biographies	Mobility map Seasonal calendars Daily routine and activity profile
Work sharing (taking part in local activities)		Oral-histories	Historical profile
		Local stories, portraits and case studies	Trend analyses and time lines Matrix scoring
Preference and pair wise ranking			
Venn diagrams			
Villager share presentation	Network diagrams	Systems diagrams	
			Flow diagrams
			Pie diagrams

Source: Pretty (1995)

Group efforts create synergistic interaction: group performance and output are greater than the sum of its individual members. Assuming that putting together a group of people in the same place is apparently inadequate to make effective team. Shared perceptions, essential for group and community action, have to be negotiated and tested in a complex social process. Yet the complexity of interdisciplinary team remains poorly understood. A range of workshop and field methods can be used to facilitate the process of group formation, e.g., the idea of the present UNODC regional training workshop (Figure 1).

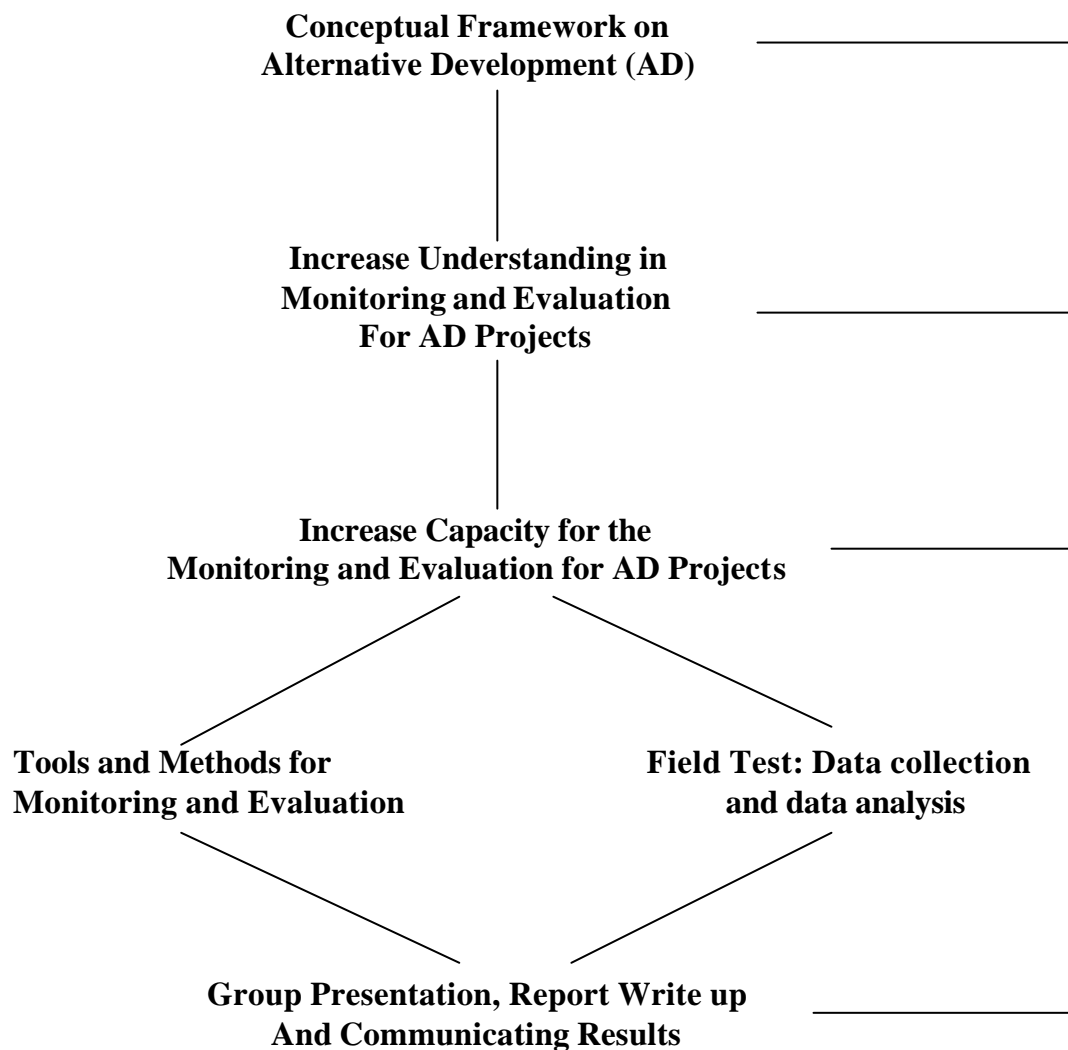


FIGURE 1: The design and process of the training workshop for Monitoring and Evaluation of AD Projects.

Source: Chinnanon (2002)

To ensure that multiple perspectives are investigated and represented, practitioners must be clear about who is participating in data gathering and collection, analysis and construction of analytical framework of the perspectives. Communities are not homogenous and it is dangerous to assume that those participants are representatives. The poorest, the most disadvantages and women of the households are often missing in the process.

Sampling is also an essential part of participatory approaches. A range of sampling techniques is available elsewhere. Consultation with statistical experts and other relevant specialist or professionals would help to improve sampling techniques in many ways. This may include stratification of sampling opium growing households, triangulation for site to visit, AD and non-AD interviewees, field measurement and assessment (crop cutting and yield assessment of alternative cash crops, soil sampling of opium growing area, sample plots for biodiversity-rich opium fields), and so on.

Triangulation is the systematic use of existing variation in RRA (Grandstaff and Grandstaff 1996). It suggests that the AD evaluators choose more than one methods, sites or interviewees (usually three or more) to ensure validity and to cross-check the accuracy of the findings. The term “triangulation” is delivered from this concept. Choices of methods, sites and interviewees are made in a systematic way so that a whole range of choices could be covered. Variation is, most of the time, qualitative. Taking sample sites or interviewees will have to consider all variables that have important influences on the defined topics and sub-topics for particular tasks, i.e., implementation, monitoring or evaluation. Choices are then made to get at least 3 points along the range of the variables, avoiding the most extreme or unrepresentative cases, i.e., the “tails” of a normal distribution curve. This is obviously not substituted the proper sampling, but would suffice in RRA where the number of sites and interviewees are more limited. It is far better than having no selection plan at all. In contrast, it has advantages over some form of sampling in that it is flexible as RRA is in progress. This allows AD evaluators to drop irrelevant variables as they go along and selected the new ones that have not anticipated ahead of time.

Interviewing and having dialogue are the most sensitive among the participatory elements. For re-constructions of reality to be revealed, conventional dichotomy between interviewer and respondent should not be allowed to develop. Interviewing is then structured around a series of methods that promote a sensitive and mutually beneficial dialogue. It should be, however, a structured conversation rather than an interview. Guidelines for interviewing and dialogue are provided in the

next section. In formal monitoring surveys and evaluation, information taken by interviewers must be transformed into their own languages. Diagramming by local people provides them a share in the creation and analysis of their own knowledge. It also gives a focus of dialogue which can be sequentially modified and extended. Local categories, criteria and symbols are used during diagramming which may include mapping of former opium sites, present cropping systems, local perception of land use, seasonal and historical trends, ranking and scoring to understand decision making and so on. Local people are encouraged to explore creatively their own vision of their worlds. Visualization helps to balance dialogue, and increase the depth and intensity of discussion.

4.7 SEMI-STRUCTURED INTERVIEWS: Principles and Hints

The interview would be best carried out by a small interdisciplinary team, say 2-4 persons, in the field where AD activity is taking place, with the person(s) actually responsible for the tasks. It uses non-formal language in a friendly but professionally atmosphere. Interview may be conducted with individual, *key informant* and/or with the group of informants. Key informant and group interviews are more appropriate for obtaining information about the opium and non-opium households.

When a group of AD evaluators coming together from different professions and academic backgrounds, some sort of procedures need to be agreed upon ahead of time. Such procedures include who takes the lead in introducing the team to villagers and explains the purpose of the field visit and the interviews? Who would be authorized to break-off the interview if it goes out of the framework of the task, what are the rules for asking questions, i.e., who will ask and when? The purpose is to ensure the smooth conduct of interview. In this approach everybody asks the questions in chronological order and takes notes during the interview.

The following principles and hints for semi-structured interview are compiled from the lessons and experiences derived from a cumulative process of the early agro-ecosystem research with the Southeast Asian Universities Group (SUAN) in 1980s, followed by the Joint Project between Chiang Mai University (CMU) and the International Institute for Environment and Development (IIED) on *Shifting Cultivation in Thailand, Laos and Vietnam: Its Social, Economic and Environmental Values Relative to Alternative land Use* and the United Nations University (UNU) Project on *People, Land Management and Environmental Change (PLEC) in 1990s*, the Thailand Research Fund (TRF) for Senior Scholars Project on *Eco-physiological Process and Genetic Control Relating to Plant Nutrition traditional in the transition to 2000* and McKnight Project on *Agro-*

diversity for “in situ” Management and Conservation of Thailand’s Native Rice Germplasm in 2002.

Principle 1: *Select interviewees for reliability and representation and judge these during the interview session. Breaking-off unproductive interviews or expansion of the good ones may be undertaken with caution.*

Hints:

- ▶ Choose sites and persons to offset Chamber’s ‘biases’; e.g.,
 - ? dry season bias
 - ? project bias
 - ? biases of personal contacts
 - ? biases of politeness and protocol
 - ? others
- ▶ Appraisal the site, if necessary to identify common practices, biophysical variation and socio-economic conditions
- ▶ Find the most knowledgeable, analytical or innovative people on the subject of interview;
- ▶ Identify key member of the family who actually does the task relating to the subject of interview
- ▶ Don’t spend time with uncooperative informants
- ▶ Avoid the accompany of those who have biases, both project staff or government officials
- ▶ Use ‘triangulation’ for selecting samples village for interview (e.g., 3 types of villagers within a village, 3 villages in a target area and possibly 3 levels within a bureaucracy)
- ▶ Observe both verbal and non-verbal responses to the questions when judging the reliability of the respondents (movement, relaxation, fishing and vague answers, etc)

Principle 2: *Group interviewing differs greatly from individual interviewing. There are needs to agree upon practice and use of interview procedures or protocols and rules for (1) initiating and breaking off interviews, judging the responses; for (2) questioning and focusing attention. Without these, the AD project evaluation team would not be capable of (1) reducing the time in ‘bad’ interviews; (2) making best use of the time with ‘good’ interviews; and (3) maximizing the quality of information obtained.*

Hints:

- For initiating interviews
- ▶ Someone who knows the cultures
- ▶ Some one who has “psychological confidence” and is comfortable with the role;

- ▶ Someone who can understand non-verbal expression of the group
- ▶ Someone whom the AD evaluation group is confident to have the above capacities.

Hints:

For questioning and focusing the attention, it is the most important part of semi-structured interview and requires the best cooperation, expertise, attention and efforts of the group:

- ▶ Pick up on odd phrases, terms or incidents that the AD evaluators are not familiar with or wonder why they were brought up by the interviewees at the time; ask for the meaning and follow up for full understanding
- ▶ Spread the questions broadly at the beginning of the interview and ask for increasing specification in the answers; listen carefully to those questions and answers that are outside your background
- ▶ Show interest, intensity, reflect knowledge. Repeat the question on something has already said is insulting.
- ▶ Follow up something that has missed, but remember the question may be repeated later in a friendly manner.
- ▶ Challenge answers, ask for the back-up, details; examples, goes for in-depth; specification; use the “next linkage” forward and back in time; nail down, concretize things. Don’t settle down for vagueness or generalization in abstract terms
- ▶ Let farmers conclude as much as possible before the AD evaluation team does
- ▶ Use observation as a basis for questioning, wherever possible
- ▶ Give opportunity for knowledgeable “outsiders” who may come around to join in if they have something to offer

Principle 3: *Avoid promises or implications of forthcoming assistance to villagers.*

Hints:

This principle is probably more relevant to research team rather than development agents such as AD projects, NGOs and government officials where people expect development actions.

- ▶ Be somewhat negative in the introduction
- ▶ Explain the reasons of being there with nothing specific will come

Principle 4: *Control the interview*

Hints:

- ▶ Maintain good attention and concentration throughout the interview.
- ▶ Don't leave any thought "hanging" otherwise either interviewer or interviewee got off the track for some reason.
- ▶ Be friendly but assertive in getting the attention of the interviewee back if the conversation wanders
- ▶ Use the procedures or protocols the team agreed on
- ▶ Critique among the team members as a group after first day of interviews and occasionally thereafter, whenever the interview does not go well

Principle 5: *Limit size of group to manageable number is necessary to obtain good and productive interaction during any interview.*

Hints:

- ▶ Recommend less than 4 interviewees – no more 4 active respondents at a time
- ▶ Refer to *Sondeo* method if more persons are needed

Principle 6: *Draw out the interview in terms of interviewee's own way of thinking and explanation.*

Hints:

- ▶ Don't over-specify questions or ask interviewees in such a way that interviewer appears to use a fixed questionnaire.
- ▶ Inform interviewees how the interview will be conducted, not to run a questionnaire
- ▶ Be thoroughly familiar with own sub-topical areas and general questions

Principle 7: *Plan the work well but remain flexible to take best advantage of "serendipity" and changing conditions in the field.*

Hints:

- ▶ Select more villages to visit, so that variation on key variables is verified for the subject
- ▶ Leave a good deal of slack time in the schedule for flexible decisions to be made later
- ▶ Control the interview – don't let it turn into a "bull session". It is a semi-structured not unstructured interview
- ▶ Beware of "leading the witness" but under some circumstances, it can be used in a controlled, limited conscious and documented way
- ▶ Use interpreters professionally. Don't let them become "mediators"

- ▶ Go back and re-interview key people, if advisable.

Principle 8: *Be professional but make the interviewee as comfortable as much as possible.*

Hints:

- ▶ Carry small things, like cigarettes or snacks to share for a break during the interview
- ▶ Give enough introduction to put interviewee at ease
- ▶ Don't over-specify or over-explain
- ▶ Show sincere and detailed interest
- ▶ Watch the non-verbal cues

Principle 9: *Revise notes, recapitulate and share information among the AD team members. Use the time in between interview for this, so that progress can be made beyond the initial set of questions and get to the “second generation questions” and hypothesis revision. It is necessary to: (a) capture, retain and internalize information; (b) share information and judgements; and (c) judge information and revise questions.*

Hints:

- ▶ Stop outside the village after interview and expand the notes
- ▶ Ask each others to fill the missing parts
- ▶ Expand, rewrite notes in clearer, fuller and more readable form
- ▶ Circulate for team discussion
- ▶ Leave time to think about

Principle 10: *Semi-structure interviewing is almost always a key informant methodology – Keep this in mind!*

Hints:

- ▶ Choose interviewees with relevant to the key variables. When questioning, remember to probe for his/her knowledge of the larger situation, not the specific household data, except when this illuminates the larger picture
- ▶ Try to get greater understanding of the commonalities and variation.

4.8 CONCLUSIONS

People's participation can be approached in many different ways with a great diversity of typology, tools and field methods. Some may view people's participation is merely a means to increase AD Project efficiency but others may view it as the rights of people and rural society, in which the main aim is to initiate mobilization for collective action, empowerment and institution building. The extreme people's participation approaches may be resolved with systematic classification of participation into 7 categories with the intermediate continuum of the degree of people's participation in AD and other rural development projects.

For monitoring and evaluation, this training module is proving an assessment of people's participation in AD project cycles; planning and appraisal, implementation, monitoring and evaluation. It is important for AD Project Managers and Key Project Personnel who are in charge of monitoring and evaluation to carry out their tasks with the incorporation and integration of people's participation in different stages of project cycles.

Although the significant contribution of people's participation is widely recognized in all sorts of development projects, including AD projects, the overall typology of participation can be systematically categorized with their similarities and differences. This has been highlighted in the present module for discussion and future application to national AD Projects in the region.

Practical guideline for carrying out monitoring and evaluation with people's participation is outlined with major principles and some hints. Much of the principles and hints have been derived from the past lessons and experiences from the action research conducted mainly by people from academic institutions. The challenge for development agents is widely open for future improvement and development in the field of People's Participation paradigm.

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MODULE 5: DATA ANALYSIS, INTERPRETATION AND PRESENTATION INSTRUMENTS*

5.1 SCOPE OF THE MODULE

The training module defines the approaches for data analysis, interpretation and presentation instrument for alternative development (AD) projects. The principles and guidelines of data analysis, interpretation and presentation instruments are also presented. Key concepts and contents are applied as a continuation of group activities. At the end of this module, self-evaluation questions are provided to assess the trainee's learned knowledge, skills and competencies based on the learning objective stated.

5.2 LEARNING OBJECTIVES

After completing this module, the participants shall be able to:

- 1) Gain more understanding about the approach of data analysis, interpretation and presentation instruments that are in line with the AD project monitoring and evaluation
- 2) Apply the methods of data analysis, interpretation and presentation for an effective monitoring and evaluation system in line with their respective AD project documents

5.3 TYPES OF DATA COLLECTED

According to the research, methodology can be divided into 2 major types namely, qualitative and quantitative methods. Therefore, the required data for each method can also be divided into 2 main types namely, qualitative data and quantitative data. The qualitative data include any information that is not numerical in nature, meanwhile quantitative data include any information that is numerical and quantifiable by its nature. There are some major examples of qualitative methods frequently used for conducting research such as direct observation, field research, focus groups and in-depth interviews, participant observation, questionnaires, semi-structured interviews, unstructured interviews and village meetings. The example of quantitative methods are

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simple statistical techniques (e.g. frequency distribution, measure of location and measure of dispersion), such as bivariate analysis, multivariate analysis, cluster analysis, Pearson product-moment correlation, inferential statistics and interval measures of relationships.

5.4 COMPLEMENTARY BETWEEN QUALITATIVE AND QUANTITATIVE TECHNIQUES

Because the power of test of qualitative technique is not as strong as that of quantitative technique, therefore qualitative research technique is more appropriate for explaining the phenomena than testing hypothesis. Criteria for using qualitative research technique, which should be taken more considerations, are credibility, transferability, dependability and confirmability.

Credibility is a criterion involving the established results of qualitative research that are credible or believable from the perspectives that was brought up by all the participants involved in such research activities. From this perspective, **the purpose of qualitative research is to describe or understand phenomena from participant's eyes and only participants are the ones who can legitimately judge credibility of research results.**

Transferability refers to the degree to which results of qualitative research can be generalized and be transferred to the other contexts. From a qualitative perspective, the transferability is primarily a responsibility of the one who is generalizing. The qualitative researcher can enhance the transferability by describing the research context and assumptions thoroughly that were central to the research. The person who wishes to transfer the results to different context is then responsible for making judgment of how sensible the transfer is.

According to traditional quantitative view of **reliability**, it is based on the assumption of repeatability. Essentially, it is concerned with whether we would obtain the same results when we observe the same thing twice. But we cannot actually measure the same thing twice and, by definition, if we are measuring twice, we are measuring two different things. In order to estimate reliability, quantitative researchers always construct various hypothetical notions and try to get around this fact.

The idea of **dependability**, on the other hand, emphasizes the need for researcher to account for ever-changing context within which research occurs. The researcher is responsible for describing changes that occur in the setting

and how these changes affected the way that research approached the study result.

Since qualitative research tends to assume that each researcher brings a unique perspective to the study, **confirmability** refers to a degree to which the results could be confirmed or corroborated by the others. There are a number of strategies for enhancing confirmability. The researcher can document procedures for checking and rechecking data throughout the study, while another researcher can take a devil's advocate role with respect to the study results and this process can be documented. The researcher can actively search for and describe the negative instances that contradict prior observations. After the study, one can conduct a data audit that examines data collection and analysis procedures and makes judgments about potential for bias or distortion.

Since the quantitative research involves with statistical inferential and it is a statistical subject by nature, the statistical inferential procedure comprises 4 common elements such as data gathering, description, statistical inference and interpretation and decision. The brief description of each nature is as follows;

Data gathering is concerned with determination of what to measure, time and extent of data collection process, which may include design of survey or experiment, and assessment and control of errors that arise in such operations.

Description is concerned with using descriptive statistics to analyze the research data such as percentage, frequency, means and standard deviation. This includes problems of fitting appropriate mathematical models to data analysis.

Statistical inference is concerned with problem of drawing conclusions about population that was sampled to produce data that have been gathered and described.

Interpretation and decision focus on a process of making judgment and interpretation of the findings to answer the research questions. Interpretation and decision are both art and science to present what is happening and what are the implications of statistical inference to a population.

The criteria for conducting quantitative research, which should be taken more considerations, are internal validity, external validity, reliability and objectivity.

Internal validity relates to what should be measured or quality or fact of being valid in its argument or proof of statistical inferential and/or statistical model, which can be used to explain an interesting phenomena or problem. Therefore, this kind of validity can be tested and verified within statistical model itself. Aside from what should be measured, an **external validity** covers quality or the fact of being valid in an argument or proof of statistical inferential and/or statistical model that can be used to apply and/or generalize for population or for general situation as a whole.

Reliability is the extent of consistency in measuring a variable or a set of variables of the research. Statistical techniques such as multiple measurement are used to ensure some reliable measures. Moreover it differs from validity in the sense that it does not relate to what should be measured, but how it is measured.

Objectivity is something that research action is directed to find out, therefore it is the main purpose of such research activities. However, for the clearer understanding, table 5.1 shows comparison results between criteria components of qualitative judgment and quantitative research.

Table 5.1 Comparison between criteria for judgment of qualitative research and criteria for judgment of quantitative research

Criteria for judgment of qualitative research	Criteria for judgment of quantitative research
Credibility	Internal validity
Transferability	External validity
Dependability	Reliability
Confirmability	Objectivity

It is necessary to be aware of strengths and weaknesses of qualitative research. First, the strength of qualitative research is that it provides an in-depth study in order to probe or explain the phenomena which could not be done adequately by a questionnaire. Second, open-ended approach can generate new theories and discover new phenomena. Third, it helps people to see the phenomena with a holistic worldview and analyze them with their own perspectives and values without pre-judgments. The weaknesses of qualitative research include, first, it involves fewer cases of studies. Second, it has limited capacity on generalizations. Third, it is difficult to aggregate the data and make systematic comparisons. Fourth, the analysis tends to be dependent upon researcher's personal attributes and skills.

5.5 DATA ANALYSIS AND INTERPRETATION

As mentioned earlier, the first examples of quantitative research are simple statistical technique or descriptive statistic (e.g. frequency distribution, measure of location and measure of dispersion). The second ones are bivariate analysis, multivariate analysis, cluster analysis, Pearson product-moment correlation, inferential statistics and interval measures of relationships.

Qualitative data analysis is used for any non-numerical data collected as part of monitoring and evaluation. The data collection techniques such as unstructured observations, open-ended interviews, analysis of written documents, and focus groups transcripts require the use of qualitative data analysis techniques. Analyzing qualitative data is challenging and interesting, and great care has to be taken to ensure that the data are analyzed and interpreted accurately. The guidelines for analyzing qualitative data involve with issues such as making the good notes, drawing out themes and patterns, content analysis, summarizing qualitative data, controlling bias, affinity with diagrams and concluding thoughts on qualitative data analysis.

Making good notes is important because it can provide accurate field observation. It also means paying close attention to the languages, trying to capture immediate thoughts, reactions and interpretations and keeping them in a separate section of researcher's notes. Drawing out themes and patterns are the ways to summarize what researcher has seen or heard in terms of common words, phrases, themes or patterns. Good field notes help people to get a sense of what is there and also develops a general framework for analyzing the rest of the data. **Content analysis** is a systematic approach to analyze qualitative data through identifying and summarizing the contents of research data. Sometimes content analysis is also used for open-ended questions on interviews or focus group interviews with a big volume of qualitative information.

Qualitative data can be summarized into a common theme. Sometimes qualitative field notes can be classified under isolated ideas or perspectives that researchers want to highlight. Controlling the bias is a crucial part when working with qualitative data. In the process of bias control, it helps to have another person analyzing the data and trying to compare the two analyses. As a result, new themes or different ways of understanding data may emerge, and bias therefore can be controlled.

Affinity diagram is a good strategy to identify a common theme or interesting point that they would like to report. A good process for this strategy is to have people put an idea or a theme on a file card or post-it note, and place

all the cards or post-it notes on a wall. As a group, researcher can then sort them into similar ideas and themes. Therefore, this process considers everyone's ideas, moreover, it is a very quick way to develop an organizing structure for an analysis and making final report. Concluding thoughts on qualitative data analysis, qualitative method can be powerful tools for looking at causality such as some related factors causing the observed changes during the intervention.

Analyzing qualitative data is very time consuming, but it can reveal some of the most valuable information and be sure to plan enough time to do this analysis well.

Quantitative data analysis is used for any numerical data collected as part of monitoring and evaluation. Quantitative data are normally analyzed by statistical methods. Therefore this module will introduce some of the most important statistical concepts that a user and/or a conductor of evaluation need to know when evaluating the AD project. Statisticians divided statistics into two broad types. The first is a descriptive statistic, which is in the narrowest sense used with census or non-random sample data. The second type is inferential statistics, which is used with random sample data. There are some data analysis techniques which are only used with the inferential statistics, whereas many can be used with both kinds of data set. This module will start with the most common data analysis technique that is usually called the descriptive statistics. It focuses on a commonly used analysis techniques for the data obtained by random sample or what is called statistical inferential.

5.5.1 Descriptive Analysis and Simple Statistical Technique

The analysis of numerical data used statistical techniques is an abstract expression. The purpose of this module is to give more concrete content of descriptive analysis and simple statistical techniques. The common characteristic of the quantitative techniques is related to statistical inference which interprets research data from the sample to the whole population.

Statistic may be considered as a common kit of tools for describing and analyzing data for various disciplines. In this sense, statistic is neutral, hence the same sampling techniques may be used by and applied in any disciplines. However, statistic has developed a certain technique that peculiar to the field of applications. For example, in the field of economics such a certain technique is always called econometrics. In business, such certain techniques like index numbers and time series have been developed to a greater extent than in education and sociology. But for these two latter disciplines, techniques of

factor analysis have been developed extensively. In the industry field, the quality control is the most important one.

Frequency distribution and cumulative frequency distribution:

Frequency is the number of occurrences in each class of an interesting data set or simply called class frequency. When the class frequency is presented in table form, this table is called a frequency table that shows the frequency distribution of such interesting data set. Furthermore, when, the values of variable are assembled as frequency table, it enables researcher to obtain by various statistical techniques. Cumulative frequency is the cumulative number of occurrences in each class of an interesting data set or simply called cumulative class frequency. When the cumulative class frequency is presented in the table form, this table is called a cumulative frequency table that shows cumulative frequency distribution of such an interesting data set (see table 5.1).

Table 5.2: Frequency, cumulative frequency and its distribution

Class	Frequency	Cumulative frequency	Proportion (%)	Cumulative proportion (%)
0-45	50	50	25	25
46-80	50	100	25	50
81-100	100	200	50	100
Total	200	-	100	-

Table 5.2 shows an example of frequency, cumulative frequency and its distribution. Cumulative frequency table can be used to construct the cumulative curve and one application of such cumulative frequency and curve is called the Lorenz curve (figure 5.1). The Lorenz curve that is derived from the plotting between income level and the number of family will indicate income distribution. The curve AC in figure 5.1 shows the complete equality of income or the best or justice income distribution. The curve ABC shows incomplete equality or injustice of income distribution. Suppose AEC and ADC are Lorenz curves after and before set up AD project respectively. Since the curve AEC has come closer to AC, the income distribution of farmer in the study area of project site after AD project was set up is more nearly equal than the one before AD project was set up.

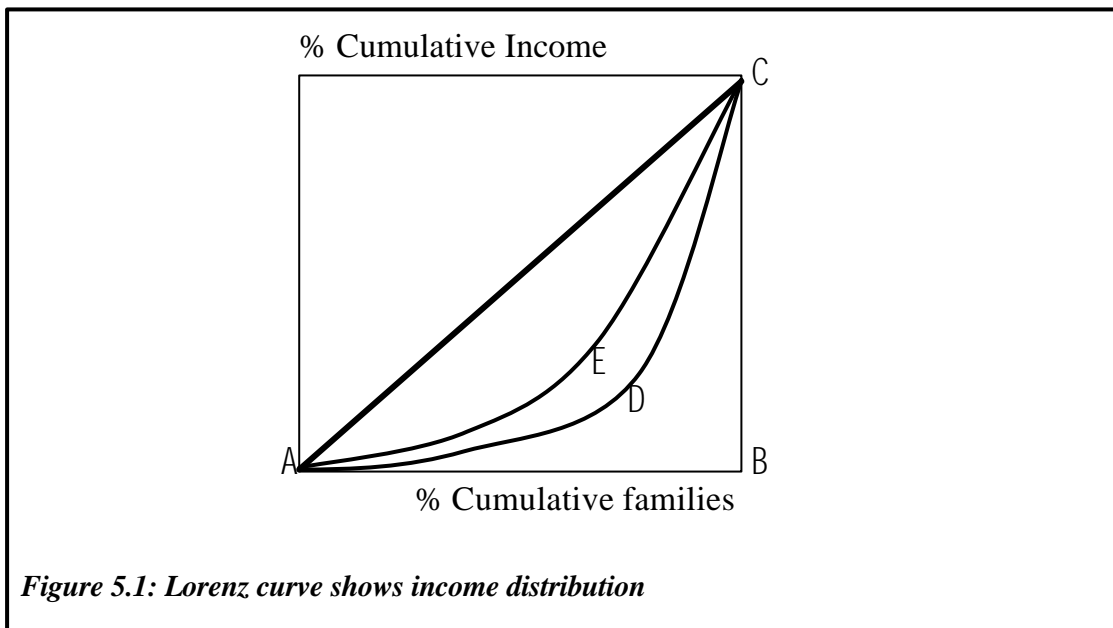


Figure 5.1: Lorenz curve shows income distribution

Measure of Location: *Measure of location* can be divided into two locations; measures of central location and other measures of location. Measures of central location means that the central points of a frequency distribution will characterize their distribution. These measures of location will be the arithmetic *mean*, *median* and *mode* of distribution. Other measures of location are quartiles and percentiles of distribution.

Mean: *Mean* can be divided into 2 types that depends on the occasion arises namely, ungrouped data -unweighted case, ungrouped data -weighted case, and grouped data case. For the ungrouped data -unweighted case, the arithmetic *mean* of frequency distribution is also called *mean* or average that is defined as the sum of n values divided by n. However, for the ungrouped data - weighted case, the arithmetic *mean* of frequency distribution is also called weighted *mean* or weighted average that are defined as the sum of weighted n values divided by the sum of weighted (w_i) or simply shows as the following formula.

Median: The *median* of frequency distribution is a value that divides frequency distribution into two equal parts. *Median* is a very useful tool when *mean* is not suitable to represent the measure of central location for some type of frequency distribution.

Mode: *Mode* is a very useful tool when *mean* and *median* are not suitable to measure the central location to represent some types of frequency distribution. *Mode* of frequency distribution is any value at which the frequency density is at maximum. On the other hand, it is any value of variable

that occurs most frequency. The mode definition implies that if the frequency curve has one peak or one maximum, there is only one *mode*. Where as if the frequency curve has more than one peak or more than one maximum, there is more than one mode as well.

Measure of Dispersion: For a case, we need to find out a measurement for scattered data, it is called dispersion in statistics. When dispersion of data set is known in addition to arithmetic mean, the description of distribution of data set will be greatly improved. When asked how well the farmers did after the set up of the AD project, we should answer by giving *mean* of family income and dispersion of income of the target population or farmer. There are three *measures of dispersion* namely, **range**, **mean deviation** and **standard deviation**. These measures are parameters of frequency dispersion that characterize the scatter of distribution.

Range: It is the simplest *measure of dispersion* that measures in term of difference between maximum value and minimum value of data set.

Mean Deviations (MD): It is another measure of dispersion that includes variability of all items. It is the average of deviations from some central value such as *mean* or *median* of distribution. When the *mean* is used as the central value, it called the *mean deviation* from *mean*. But when the *median* is used as the central value, then it called the *mean deviation* from *median*.

Standard Deviation (SD; s): It is similar to mean deviation in that the deviations are measured from mean value. In practice, SD is favored over the MD and range due to it has desirable mathematical properties. It calculates as the square root of variance. Meanwhile variance is the mean of squared deviations.

Relative Dispersion (Coefficient of Variation; CV): The CV of distribution is the ratio between standard deviation and mean value of the interesting data set.

5.5.2 Other Statistical Techniques

Other statistical research techniques include a **bivariate analysis** and **multivariate analysis**. The examples of more established techniques of such bivariate analysis are **correlation**, **simple regression** and **chi-square test**. Meanwhile, the examples of more established techniques of such **multivariate analysis** are **multiple regression**, **discriminant analysis**, **analysis of variance**, **canonical correlation**, **binary choice model** (e.g.

Logit, Probit, Tobit), **linear probability model, co-joint analysis, principal components analysis, structure equation model, factor analysis, cluster analysis, multidimensional scaling and correspondence analysis.**

Bivariate Analysis: It is an analysis that involves with a joint distribution of two variables or two bivariate distributions. There are three major types of bivariate analysis namely, correlation, simple regression and chi-square test

Correlation: It is the relationship between two sets of data, or variables such as relationship between family income of farmer who participate in the AD project and the numbers of alternative High Yield Variety (HYV) cash crops. Such relationship can be analyzed by using correlation analysis.

Simple regression: It is the most frequently used technique in economics and business research in order to find out the relation between two variables that are related causally. The simplest case where there are two variables such as the relation between the yield of cash crop and the amount of fertilizer applied by farmer.

Chi-square test: It is the statistical technique used to test the problem of goodness of fit that based on chi-square distribution. The Chi-square test can be used to test goodness of fit, test of dependence and test of homogeneity.

Multivariate analysis: It is the analysis that involves with a joint distribution of more than two variables or *multivariate distributions*. There are five major types of *multivariate analysis* namely, multiple regression, binary choice model, factor analysis, principal component analysis and discriminant analysis.

Multiple regression: It is the most frequently used technique in economics and business research in order to find out the relationship between more than two variables that are related causally. In the simplest case, there are two variables such as yield of cash crop and the amount of fertilizer applied by farmer, rainfall and etc.

Binary choice model: It is a linear probability model that the dependent variable takes a binary form such that 1 or 0 due to the survey

period; key informants either say yes (equal to 1) or no (equal to 0), or consumer either brought the car (equal to 1) or did not (equal to 0). In case of a binary choice model, such dependent variable will be treated as a dummy (1 or 0), and it will create some problems where residuals will be heteroscedastic. Hence the application of the ordinary least squares (OLS) will yield inefficient estimates. However, in practices, the weighted least squares (WLS) procedure can be used to obtain a suitable estimate of variance

Factor analysis: Factor analysis assumes that observed variables are linear combinations of some underlying hypothetical and unobservable factors. Some of these factors are assumed to be common to two or more variables and some are assumed unique to each variable. The unique factors are then at least in explanatory factor analysis, assumed to be orthogonal to each other. Hence the unique factors do not contribute to the co-variation between variables. In other words, only common factors, which are assumed much smaller in number than the number of observed variables, contribute to the variation among the observed. The linear system assumed in factor analysis is such that the user can identify resulting covariance structure without errors if the underlying factors loading are known. Given these postulates and the properties of linear system, it is possible to identify exactly underlying factor pattern from the examination of resulting covariance structure, provided that the underlying pattern is relatively simple and that it satisfies the requirements of simple factor structure.

Principal component analysis: Principal components analysis is a statistical technique that linearly transforms an original set of variables into a substantial smaller set of uncorrected variables that represents most of the information in the original set of variables. Its goal is to reduce the dimensionality of original data set. Therefore, the smaller set of unrelated variables is much easier to understand and use for further analysis than a larger set of correlated variables. Pearson originally conceived the idea in 1901 and independently developed latter on by Hotelling in 1933.

Discriminant analysis: It is a statistic tool introduced by Fisher in 1936. It applies a linear discriminant function that provides the best discrimination between two groups. This method is suitable when the single dependent variable is dichotomous (e.g. good-bad, male-female) or multichotomous (e.g. good-fair-bad, go-not sure-do not go) and therefore non metric. Moreover, this method is useful in situation where the total sample can be divided into groups based on a dependent

variable, characterizing several known classes. The primary objectives of discriminant analysis are to understand group differences and to predict the likelihood that an entire individual or object will belong to a particular class or group based on several metric independent variables. This method can be used to distinguish farmers who do accept alternative HYV cash crops from the farmers who do not accept alternative HYV cash crops according to demographic profiles such as household income of farmer, rainfall, religious, ethnicity, soil fertility, social status.

5.6 DATA PRESENTATION

There are many kinds of the presentation and instruments. The basic principles for choosing such presentation instruments depend on the purpose of presentation, the appropriateness of selected tools, the content needs to be presented and the research results. The presentation approaches and instruments might vary from a very simple tool (that more easy to understand), such as using verbal or narrative technique, descriptive statistic and graph (e.g. line graph, bar graph, pie graph and etc.) up to some sophisticated tools that are more difficult to understand, especially, when using statistic inferential techniques such as bivariate and multivariate analysis.

Aside from basic principles mentioned earlier, in practical process, the selection of tools or instruments for presentation of research findings that were obtained from project monitoring and evaluation activities depends largely on knowledge, experiences and the way in which evaluators want to indicate, explain and present in the monitoring and evaluation reports. The example in Box 1 and Box 2 shows examples of the commonly used descriptive statistics and the frequently used descriptive analysis.

Box 1

Example of the Commonly used Descriptive Statistics

Frequencies (numbers, a count of how many)

- 245 farmers finished training program provided by the AD project

Percent/Proportion Distribution

- 35 percent of farmers who participates with the AD project are Lisu

Means (average)

- The average age of farmers that participates with the AD project are 45 years of age.

Medians (mid-point)

- The ages of farmers who participate with the AD project ranged from 35 to 55, with the mid point at 38

Modes (the most frequent value)

- The most frequently reported age was 40

Money (costs, revenues and expenses)

- total amount or average amount of production cost is 4,650 Baht

Percent Change over Two Points in Time (or the rate of change)

- Income level of farmers who participate with the AD project increase by 15 percent as compared with last year

Ratio (number of one thing per number of something)

- Ratio between the farmers and field extension workers is 20:1

Comparisons (could be numbers, percents and means)

- The average income of farmers who participate with the AD project was 35 percent higher than the farmers who not participate with the AD project

Box 2
Frequently Used Descriptive Analysis

Frequency Distributions (number and percent)

Describing Parts of a Whole (100%):

- **Percent:** parts of a whole expressed as a percent;
e.g. good seed introduced by the AD project has rate of germination only 65 percent.
- **Proportion:** parts of a whole expressed as a decimal, not as a percent;
e.g. proportion of good seed that introduced by the AD project is only 0.65.

Rates: number of occurrences that are standardized; allows for comparison.

- e.g. crop yield per rai (or other area unit)
- e.g. 35 percent of farmers who has participated with the AD project are Lisu and the rest are Karen.

Ratio: another way to show the relationship between two numerical variables

- farmers to field workers ratio of the AD project is 20:1

Rate of Change or Percentage change: shows change over time between two items and can be calculated in the percentage by using the following formula:

$$\left[\left(\frac{\text{New Time}}{\text{Old Time}} \right) - 1 \right] \times 100$$

e.g. The rate of change of alternative cash crop from 1994 to 1995 is calculated as follow:

$$\left[\left(\frac{520,000}{450,000} \right) - 1 \right] \times 100 = 15.5\%$$

Therefore the area (in rai) of alternative HYV cash crop increased 20 percent from 1990 to 1995

Table shows rate of change from previous year of alternative HYV cash crop That introduced by AD project during 1990-1995

Year	Cultivation area of alternative HYV cash crop	Rate of change
1990	100,000	Baseline
1991	120,000	20%
1992	190,000	58%
1993	280,000	47%
1994	450,000	58%
1995	520,000	15%

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The World Bank Group, International Training Program for Development
Evaluation; Building skills to Evaluate Development Interventions.
Module 8: Data Analysis and Interpretation.

MODULE 6: FIELD TESTING FOR MONITORING & EVALUATION TOOLS AND METHODS: GAINING PRACTICAL EXPERIENCES

This Module presented the outcomes of the practical field work which was conducted by the participants after the training sessions on monitoring and evaluation.



The participants were divided into 5 groups to design their field testing plan which included topic of the study, objectives, key indicators, methodology of the study, data collection and tools, data analysis and interpretation. The groups conducted their field data collection at Nong Hoi Village in Mae Rim District of Chiang Mai. After data collection, the groups performed data analysis and interpretation. The objective of the exercise was solely to

provide an opportunity for the participants to practice data collection, analysis and interpretation without any intention to evaluate the actual development activities in the community. The detailed results from each group for their field testing of the monitoring and evaluation tools and methods are as follow:

GROUP 1 : COMMUNITY BASED DRUG ABUSE CONTROL (CBDAC)

Objectives

- ▶ To carry out rapid assessment of the Community Based Drug Abuse Control Programme in Nong Hoi village
- ▶ To exercise the use of Monitoring and Evaluation tools learnt during the training workshop

Indicators

- ▶ The number of addicts
- ▶ The number of addicts detoxified
- ▶ The number of new addicts
- ▶ The number of relapse
- ▶ The number of traffickers arrested
- ▶ The number of crimes committed by drug abuse

- ▶ The number and kind of drugs seized
- ▶ The number of key person trained
- ▶ Community satisfaction of CBDAC

Methodology of the Study

- ▶ Rapid Assessment
- ▶ Semi – structured interview with key informants

Data Collection and tools

- ▶ Informal Questionnaire
- ▶ Observation
- ▶ Study of documents

Data Analysis

- ▶ Expert data analysis

Finding and Interpretation

Background of village

Nong Hoi Kao is a highland village, locating at elevation above 1,250 m with mixed ethnic population of Hmong and Lisu. The village is situated in Mae Rim district, north of Chiang Mai City. In 2002, it was reported that the village has 107 households, 160 families and a total population of 692 persons.

Illicit drug abuse situation

According to village statistics in 1992, there were some 33 opium addicts in Nong Hoi village. By 1995 all opium addicts were either detoxified or had passed away. Only two opium addicts remain in the village. The two addicts are over sixty years old and the people in the village allow them to smoke opium till they passed away. ATS was reported to become a problem in 1998. At that time, seven ATS abuse cases were found. It may be said that the opium addict is virtually absent in the project area and there is no case of ATS. The community seems to have strong communal control of opium addict and ATS abuse.

The community has set up a Village Law Enforcement Volunteers (VLEV) to be responsible for identifying and approaching the drug abusers. The village headman acts as supervisor for the Volunteers (VLEV). At present, there are some

20 to 30 volunteers in a village, estimating about 100 to 150 volunteers in five villages of the Royal Project area.

The CBDAC programme

Drug awareness activities

Drug awareness issues are currently included in the school curriculum from grade one to grade six. There are 347 students in this primary school. Media such as drug awareness posters, information board, cassette tapes, radio and television messages are being used in drug campaign and awareness programme. In school during the flag raising ceremony, the teachers would give a speech and talk about drug awareness issues. Drawing contests with anti-drug themes for the students are reported to be organized every 3 months. Women groups and youth groups are reported to participate actively in drug awareness activities including sport activities. As the results of active CBDAC as well as drug awareness activities, drug abuse case has never been reported in the school.

CBDAC (1992-1995)

Target groups

- ▶ Addicts and their family
- ▶ Mainly 33 opium addicts

Responsible parties

- ▶ VLEV
- ▶ Royal Project staff
- ▶ Sub district Health Officer
- ▶ Women Group (Health issues, food preparation)
- ▶ Youth Group (Sport activities)
- ▶ Village Health Volunteer

Methods Used

- ▶ Hospital based detoxification method was used for the first two times, with high relapse rate
- ▶ Later two detoxification were carried out in the community with community sanctions and CBDAC activities
- ▶ Duration for detoxification was about 20 days

Medication Used

- ▶ Modern medicines which include substitution/replacement medicines and medicines for symptomatic treatment

Funding

- ▶ Royal Project
- ▶ Government Agencies
- ▶ Community contribution

Rehabilitation

- ▶ VLEV, VHVs, family and community carried out after care and follow up activities
- ▶ Ex-addicts were helped with income generating activities especially agriculture crop production by the project and relatives

Detoxification for ATS Drug Abusers (CBDAC)

According to community rules and regulations for drug abuse, detoxification for ATS drug abusers was mainly carried out by self-detoxification, family based detoxification with help and support of families, relatives, VLEV and the community.

Community rules and regulations for drug abuse

▶ Suspected drug abusers are checked using urine testing. This is repeated three times on a 20 days interval. If found positive the drug abuser is warned to stop using drugs. If the person is found to be positive after three times of testing the person and person's family's rights to community help and assistance such as access to credit/loan is taken away and the person and the person's family is banished from the village.

▶ If a known drug abuser is successful in stopping his or her habit, some sorts of community awards are given. They would be socially accepted, appreciated and reintegrated into the community. In addition, assistance would be available income generating activities such as supports and services for cash crop production.

▶ Drug traffickers are not allowed to be in the village and will be arrested for legal punishment.

▶ Village rules and regulations are informed to the district authorities for

official recognition. VLEVs are responsible for enforcing the village rules and regulations with support from village committee and local administration.

Drug Abuse Situation

As already indicated that there were 33 opium addicts in 1992 in Nong Hoi village of the Royal Project area and seven cases of ATS abuse was reported later in 1998. The situations have changed drastically with some verified indicators (Table 1). Over the past 10 years, CBDAC activities have led to successful drug abuse control in the village.

Table 1: Past and present situational indicators and assessment

Indicators	1992	Present
The number of addicts	33	0
The number of addicts detoxified	N/A	40
The number of new addicts	N/A	0
The number of relapse	N/A	0
The number of traffickers arrested	N/A	2
The number of crimes committed by drug abuse	N/A	0
The number and kind of drugs seized	N/A	N/A
Community satisfaction of CBDAC	N/A	Highly satisfied

Source: Key Informant Interview and Village Data

Conclusions

CBDAC appears to be very successful in this village resulting from strong community awareness, elimination of all drug abuse cases including opium and ATS and no new drug abuse problems reported in the village. Addiction rate dropped from 4.76% of total population in 1992 to 0% at present. The complete elimination of addicts has reflected the effectiveness of CBDAC and drug awareness activities and this is likely to be sustained with the continuation of internal and external supports.

Contributing Factors to Success and Sustainability

- ▶ Assistance and support from the Royal Project
- ▶ Improved health and education facilities as well as socio-economic living conditions.
- ▶ Good income opportunities and activities
- ▶ Community Rules and Regulations

- ▶ Strong community leadership
- ▶ Establishment of VLEV
- ▶ Effective Drug awareness programme in the school and community
- ▶ Village networking
- ▶ Addict reintegrated into the community and helped with income generating activities such as agriculture crop production

Support from the Royal Project Foundation

Currently the Royal Project Foundation provides the following support for CBDAC activities

- ▶ An annual budget allocation of about half a million baht for 36 royal project centers (about 13,888 baht per center)
- ▶ Support for sports activities to promote drug campaign throughout the year
- ▶ Support CBDAC village groups
- ▶ Support CBDAC network
- ▶ Provide counselling for villagers that have problems
- ▶ Field trips to all villages

The Royal Project Foundation support is important to the success and sustainability of the CBDAC programme.

Impacts of CBDAC

- ▶ Elimination of drug abuse in village area
- ▶ Elimination of opium cultivation
- ▶ Increased community drug control knowledge, awareness and capability
- ▶ Household income increased by Royal project agricultural activities
- ▶ Village authorities and VLEV less than 40 years are reported to refrain from smoking cigarettes due to increased awareness of the dangers to health and to serve as a model for the younger generation
- ▶ All villagers appear to be busy with productive activities and receiving sufficient incomes to support their families.
- ▶ Educational facilities, socio-economic conditions appear to have improved considerably since 1984
- ▶ There appears to be a strong village leadership system in place

Recommendations and Implications

- ▶ To emphasize and expand the use of Family Based Drug Abuse Control
- ▶ To emphasize on Prevention and Drug awareness activities

- ▶ Regular ex-addicts meeting as well as ex-addicts participation in the drug awareness programme as models for the community
- ▶ Information sharing with others as in the National or Regional Symposium

Implications

There has not been much work done on family based detoxification and the use of such methodologies should be studied scientifically for practicality and more widespread use. The Chinese experience indicates that the lack of family attention, care and apparent love has resulted in some cases of ATS drug abuse among young people.

The monitoring and evaluation tools used in this case study was found to be satisfactory. Limited time was a constraint as well as the inability to meet ex-addicts and other key informants who were not in the village at the time of the visit.

GROUP 2: WATER SUPPLY

Scope of the Study

Water supply situation analysis in Non Hoi Kao and the extent of awareness people have about safe water.

Background Information

Nong Hoi, a highland village, is located at the altitude about 1,200 m. It is approximately 30 km from Chiang Mai City or about 45-min drive. The village consists of 120 households with a total population of 720 persons. Hmong is the dominant ethnic group in the village with 90 % of total population. The rest 10 % of population is Lisu ethnicity. Average annual rainfall in Nong Hoi is 1,512 mm, mainly during rainy season (May to October). The average temperature is 20.6 degrees. The Royal Project has started development activity for 30 years ago in this village. Although the development priorities have changed over time, the Project remains fairly active in the village with expanding activities in vegetable production.

Methodology of the Situation Analysis

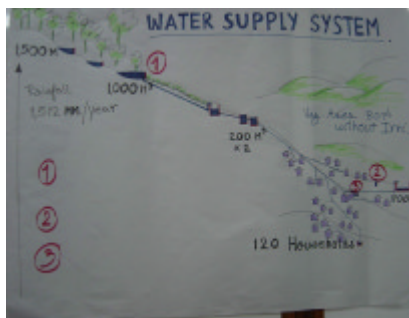
Our survey team: 4 persons including three Thai speakers accompanied by Mr. Subachara (deputy head of village) for field interview and observation. The head of the water user group was unfortunately absent on the day of the visit. The team

first made a visit to the existing water supply systems and made observation of water resource from the source to the end of the delivery system. The Team made record of field observation, took the pictures and asked questions to Mr. Subachara. The team then observed line distribution in village before visiting the school for a conduct of informal interview with teachers and school children of different ages, individually or collectively. Finally the team proceeded to 3 households where the brief interviews and some observation on the use of water were conducted. At the end the team had a brief discussion with some member of the village committee and the deputy head to review and consolidate some numbers and figures.



Data Analysis

There is another water supply dedicated to agriculture. This system is not part of this study. The first ever water supply system in this village was built 30 years ago by the government after the visit of the King to the area. It was recently upgraded in 2000 at a cost of 8 millions baht by Royal Irrigation Department



(RID). This was probably done partly because of insufficient quantity of water for the villagers and also may be due to an increased population. There are some other reasons why the government built all the new structures.

The team observed how to stock enough water (including access road) during dry season. There are also some engineering issues that could not be analyzed in such a short term but it is evident that there are some points to review on quantity and quality: kinds of intake, survey of the existing water source or water collection type, filtering issues, break pressure tank, closing and protection of reservoir. The existing system collects water in forested area from 3 successive dams, which can be opened during dry season if one becomes empty. There is no animals or houses above the dams ensuring there is no pollution. There are 2 sedimentation tanks, which serve as break pressure point before the line goes to individual households. Both tanks are

opened and animals can fall into it. (as shown on picture). Almost all houses have individual water tap and there are some 10 public taps for others. Quantity of water is reported to be insufficient mainly during dry season. It affects mainly the households since the school is closed from March to May. For this reason some households have built separate and independent systems at a cost of 12,000 baht each or have installed pumps because there is not enough pressure from main reservoir in the village to their house.

A number of houses and the school also collect water from the rain with a roofing system and they mainly rely on this water for drinking.

In addition, there are daily or weekly deliveries of drinking water from Chiang Mai with water bottles and the team observed the blue water tanks which are used to store drinking water. All children reported drinking boiled water. The Village Water Management Group has been established and composed of 8 persons with no regular salaries. However, from February to March each year, they collect 10 Baht per household per month to manage efficiently the water system and they open the main line of water only from 5 am to 8 am and 5 am to 8 am every day. Cost of maintenance of the distribution line to each household is born by each individual and the village ensures bigger maintenance with a Village Saving Fund. Maintenance group cleans the dam once a year. The maintenance of the main line is ensured by the government.



Findings and Interpretation

Quantity of water with such a system should be sufficient if managed properly. There might be some wasted water since there is no water meter established at each household level and some taps are often leaking. Quality of water is insufficient since the system is not complete: no proper intake, no filtering tank, and no protection on the reservoir. Awareness of the population is satisfactory on quality but insufficient on water management. People especially children have been given good habits in school and are aware of good and bad water.



Recommendations

The team will be very cautious in giving definite recommendations since in such a short time we could not meet with the water user group, the health center group and there was no engineer to explain in details the entire water supply system.



However the team would recommend:

- ▶ A technical review of the system to be in line with norms and regulations of a proper safe water supply system.
- ▶ Check the various intakes, tanks and reservoirs more often by water user group and if any doubts arise on water leakage, perform water analysis on regular basis.



- ▶ Improve water user group management so they can make the system more effective in terms of quality and quantity. Eventually install meters to collect fees for water consumption and place new water tapes if needed and enforce the repair of broken ones.
- ▶ Train household on water management.
- ▶ At a cost of 10,000 baht per person to establish this domestic water supply system there is still the need to import drinking water in large quantities and people continue to put parallel systems at cost of 12,000 baht each .The earliest this review is conducted the more saving will be done for the community and ensure a cost effectiveness of this project and its sustainability.

GROUP 3: RESEARCH AND DEVELOPMENT OF AD CROPS IN NONG HOI ROYAL PROJECT

Objective

To make rapid appraisal about Nong Hoi farmer's income affecting opium cultivation through AD cash crops promotion as part of field testing for methodology and tools in monitoring and evaluation for AD Projects.

Indicators

Input indicators

Historical background crop production (What are the former crops, production and income of farmer in Nong Hoi in the past? Opium poppy was only the crop grown for their livelihood and subsistence. At that time income from poppy was more preferable 4,000 baht household/year and opium was the only source of income from agriculture)

- ▶ New crops research, techniques transferring to local farmers (research achievements, what kind of techniques?)
- ▶ Loan, credit from Agriculture Bank/Cooperative and materials with subsidized rate from project were provided.
- ▶ Manpower (how many researchers, extension agents, eco-tourism staff...)
- ▶ Post-harvest facilities (Pre-cooling station, transportation...)

Process indicators

AD crop research and development procedures (what kind of research, development facilities such as: extension services, irrigation system covered...)

Output indicators

- Household/family income,
- Existing cash crops,
- Changes of knowledge.

Methodology of the study

Participatory approaches

- ▶ Site visits: Nong Hoi Project Center, Research Center, Pre-cooling system and grading unit)
- ▶ Interview (researchers, extension workers, and farmers...)
- ▶ Dialogues (village headman, Nong Hoi Center leader and staff),
- ▶ Review Project Document: 1997 report.

Data collection and Tools

- ▶ Field Observation
- ▶ Key Informants Interview
- ▶ Calculations
- ▶ Cross-check report
- ▶ Writing
- ▶ Local interpreter

Data analysis

- ▶ Mathematical calculation on cost of input and output benefit vegetable growing
- ▶ Discussion (farmers, community leaders, extension workers, Project staff)
- ▶ Group discussion and decision-making

Findings and Interpretations

- ▶ Most proper cash crops: cabbage, Chinese Cabbage, Lettuce, Carrot. We also found out many other crops as white cabbage, onion... but they are not popular.
- ▶ Farmer's income is solely based on vegetable production. During the time in Ban Nong Hoi, we have interviewed with 3 farmers, 2 of them said that most of their incomes are totally depending on selling vegetables. *Example:* Mr. Ponsa's family, a Royal Project contract farmer. His family has 14 rai of cultivated land (11 rai for cabbage, 7 rai for salad). Grow 2 kinds of crop per year and total production is 13 tons (8 tons of cabbage, 5 tons of salad). He also has 5 pigs per year but only get money from selling vegetable. Income from cabbage during the wet season could be as high as Baht 49,000. In cool-dry season, additional income from other vegetables may be about Baht 20,000. Where irrigation is possible farmers prefer to use land intensively with 2 or more crops per year both winter and monsoon vegetables. (Attached in the table). In this particular case, intensive vegetable production particularly cabbage, Chinese cabbage, lettuce and carrot are offered as alternative cash crops in these area.
- ▶ Effective extension services: Nong Hoi's Extension workers have closely supervised farmers for planning, technical training, marketing and monitoring on cash crops promotion. Please see Figure 1 and 2.
- ▶ Farmers are very well informed about the Royal Project's objectives. They may be seen as contract farmers but they are eligible to get more incentives than other farmers outside the contract. The incentives include agriculture inputs such as vegetable seeds, chemical fertilizers and pesticides for production at subsidized rates, totaling about 20,000 baht. Access to formal credit institution such as

loans from Bank of Agriculture and Cooperatives (BAAC) is advantage for contract farmers in the Royal Project.

- ▶ It was evident that farmers' living standard has much improved by AD cash crops, as comparing 4,000 baht from opium in the past to at least 60,000-70,000 baht at the moment. Majority of farmers in the village has now owned a pick-up truck for transportation. Please see table.
- ▶ Opium poppy cultivation is totally eradicated in Project Area.
- ▶ Vegetable growers have completely access to pre and post harvest treatment supports, market information and all the like. Please see figure 1.2.

Recommendations

1. For further expansion of high value vegetable production in Nong Hoi, the Royal Project may considered the following possibilities in:
 - ▶ Expansion of post-harvest facilities (cleaning, trimming, grading)
 - ▶ Expansion of diversification products for external market because in the future, producers here have to face with increasing competition market after the Asean Free Trade Area sets up.
 - ▶ Potential area for intensive cultivation of vegetable is needed to identify such as irrigation system for dry season. It is said that there is only 20% of households that have chances to get water for vegetable cultivation. We suggest them to use wasted water in vegetable cultivation and to apply them for irrigation systems of drifting and sprinkler irrigation in order to save more water. Plastic covering is one of the techniques to control soil moisture lose.

Table: Primary calculation of 1 rai of cabbage production

No.	Items	Baht
<i>Input cost (1 crop)</i>		26,575
<i>Input cost (2 crops)</i>		53,150
1	2 cups of seed	460
2	4 bags of fertilizer	1,800
3	1 bottle of pesticide	315
4	50 bags of organic fertilizer	1,500

5	Labor (2,500B/p x 3 months x 3 labors)	22,500
Output		69,000
1	In raining season: 7 tons x 7B/kg	49,000
2	In winter season: 10 tons x 2B/kg	20,000
Benefit		
	Without hire labor	39,700
	With hire labor	17,200

Note: 1 ha = 6.25 rai.

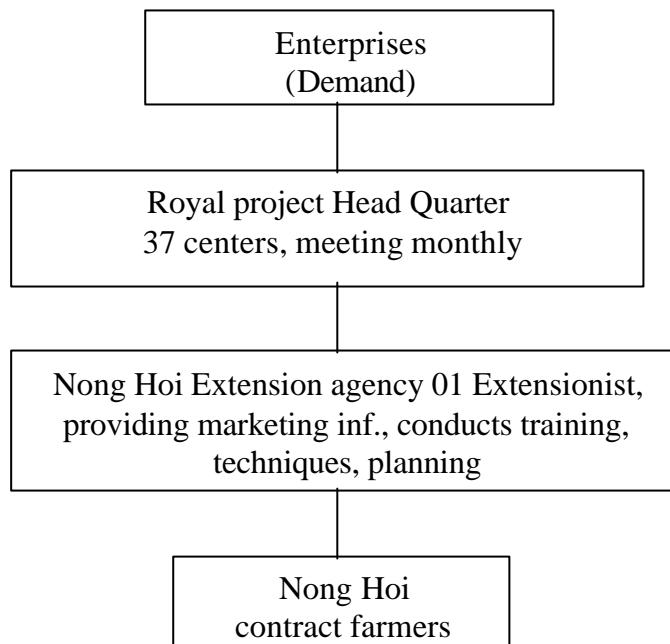
Before 1984: the average household income: 4,000 baht

2. Dissemination of crop production knowledge not only to the contract farmers but also to the others: The extension agent and Project staff should provide training not only to contract farmers but also to other non-contract farmers as well. For organic vegetable production, the programme might be less effective if the non-contract farmers used a lot of pesticides and herbicides in the adjacent fields, it will affect each other by drifts of pesticides.

3. More credit should be provided to interested hydroponic vegetable farmers. With increasing demand for high value products, supports should be provided for construction of greenhouse for hydroponic vegetable production, because the method costs farmers too much – estimating about 150,000 baht for a greenhouse.

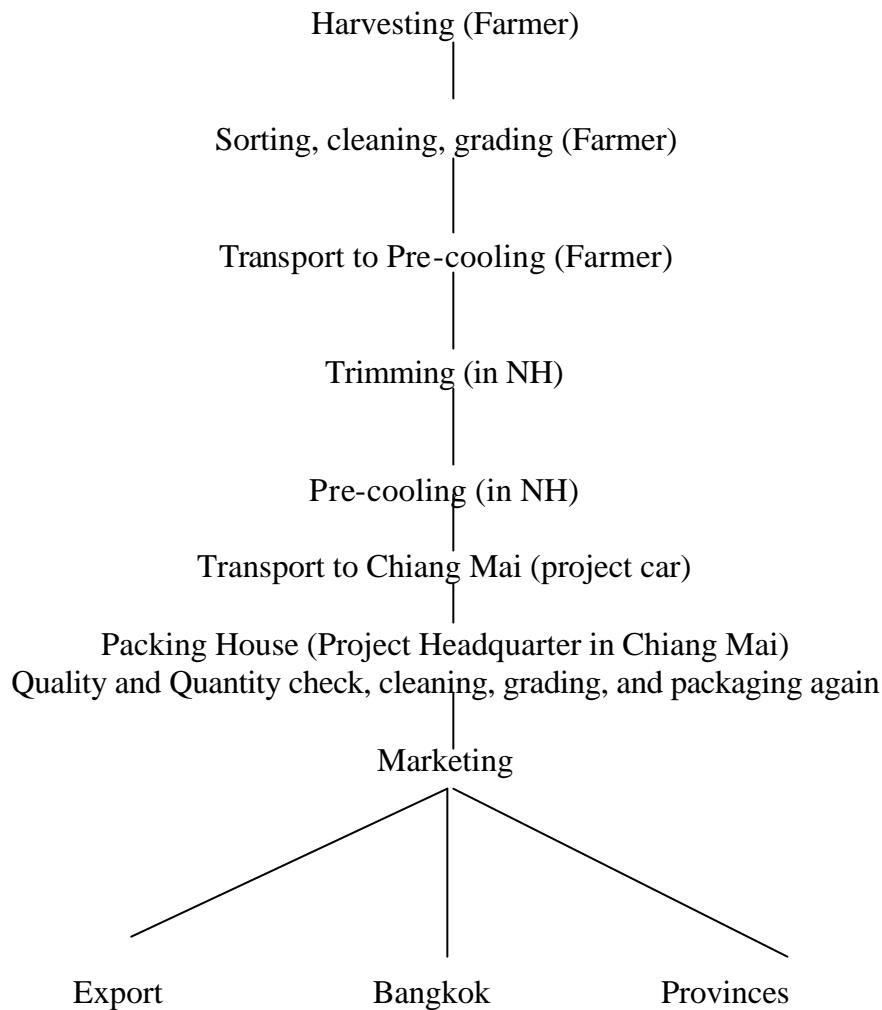
4. *Increase extension capacity of the Project.* Only one staff, Mr.Suthai, is working as an extension agent but he is serving many areas of extension activities; e.g., planning vegetable production for 120 households, upgrading farmer techniques by sending them to research center/IPM training courses as well as providing updated marketing information. This might be a limitation to the Project for further expansion and extension of Project's results.

Figure 1: Existing Marketing Information in Ban Nong Hoi, Royal project.



5. *Increase R&D Support.* The Royal Project Research Development has been carrying out many researches/experiments. Last years, their achievements of new AD crops as well as new techniques have been transferred to farmer. In Nong Hoi only, there were 500 farmer-times trained in last year. Now, they are building up many new crop production models such as hydroponic vegetable plantation. These activities need more credit for extending.

Figure 2: Marketing network and handling in Nong Hoi Royal project.



6. *Diversification of cropping systems.* The dominant of mono-cropping may lead to sustainability problems in a long run. As far as our group is concerned, the cash crop cultivation in this area is basically covered with vegetable especially the cabbage. Once pest and disease population build up to the outbreak level, the production systems may be severely affected and farmers will have to face difficulties. Even though market price is assured for the time of cultivation, large amount of vegetable production at the same area can affect the price of produces. If cabbage production is collapsed by weather (frosts) or pests incidence, there is no alternative for farmer in this season.

**GROUP 4: NATURAL RESOURCES CONSERVATION AND LAND USE
CONFLICTS: CONFLICT WITH NATIONAL PARK;
LOWLAND-UPLAND CONFLICTS; WATERSHED
MANAGEMENT**

Indicators

- ▶ Agriculture and Forest land
- ▶ Household Income
- ▶ Impact of Policy on Land Use

Methodology

- ▶ Qualitative methodology: Observation, group discussion
- ▶ Quantitative methodology: document research

Data Collection Tools

- ▶ Map sketching
- ▶ In-depth interview with key informant
(Royal project staff, assistant village head, *villager*)
- ▶ Project document and brochure

Data Analysis

- ▶ Content analysis (Qualitative): comparing maps
- ▶ Proportion percentage(Quantitative)

Data Analysis results

- ▶ Agriculture land:
 - 4.8 ha (30 rai) per household in 1984
 - 0.8 ha (5 rai) per household in 2002
 - In 1984 and 2002, same agriculture and forest area.
- ▶ Household income per year
 - In 1984, due to rotation cultivation, 3,000-4,000 baht/per year (mean is 3,500)
 - In 2002, 60,000-75,000 baht /per year (mean is 65,000)
- land owned (3.5 rai /per household) 1984
(5 rai /per family) 2002

- Migration, expansion of cultivation into natural forest
- 80%-90% of villager working on their own farm; 10% working outside the village (2002)
 - opium cultivation & other source of incomes (1984)

Finding and Interpretation (1)

- ▶ Clarifying (identifying) two types of natural forests
- ▶ Conservation area (watershed) 210 rai
- ▶ Economic forest (woods, mushroom, bamboo shoot, forest production, honey, etc.) 300 rai

Finding and Interpretation (2)

- ▶ Community, government agencies involved (Royal Project, Forestry Agency) in contributing to land use & conservation border & regulation
Example: If a person expands his agriculture land to the conservation land, other villagers will plant trees on the expand land to force him to reforestation.

Finding and Interpretation (3)

Problems & Constraints:

- ▶ From October to May of the next year, it is dry season of Thailand; there is no farm work, thus no agriculture income during the period.
- ▶ No income from non-agriculture
- ▶ Chemical Fertilizer and pesticides, relevant facilities make expenses increase

Recommendations

- ▶ Initiate eco-tourism, generate more income from non-agriculture activities.
- ▶ Promote natural fertilizers & pesticides
- ▶ Promote the quality of products for tourism and also agriculture products
- ▶ Promote self-sufficient agriculture, production & consumption
- ▶ Limits of the current study
- ▶ Annual data availability needs to be enhanced
- ▶ More key informants (8-12) are needed to organize effective group discussion\Language constraints hinders interviews to some extent.

GROUP 5: COMMUNITY ORGANIZATIONS LINKAGES TO MANAGEMENT SYSTEMS AND SUSTAINABILITY

Objective

- ▶ To make an assessment of the situation of management systems within the Nong Hoi Royal Development Center, Nong Hoi Village Administration Committee, relation to Community Organizations, gender issues and sustainability of development initiatives in the village.
- ▶ To test the efficiency and practicality of the evaluation tools

Indicators

- ▶ Related to management, sustainability and local decision making
- ▶ Situation of illicit opium poppy cultivation and replacement by AD crops
- ▶ The presence of management organization charts, work plans and budgets
- ▶ System of reimbursement to village administration and project staff
- ▶ Socio-economic situation improved as demonstrated by household income
- ▶ Dependence on external sources for activities and situation of self-financing activities
- ▶ Number of women represented in management structures as well as women empowerment
- ▶ Number and kinds of training as part of local capacity building

Methodology of Study

Interview and dialogue within the village

Data Collection Tools

The Team has designed the field study and data collection on the basis of direct observation, study of available documentation, semi-structured interviews with key informants. The people met in the field included Project Manager, Village Chief, members of Housewife Group and packaging groups.

Data Analysis

A narrative and simple mathematical analysis is taken covering the following issues:

1. Structural Pattern analysis

- ▶ Construct institutional or social or community structures/organizations and linkages (Project management, village administration, community groups, water management network)
- ▶ Discuss the structural arrangement and networking

2. Seasonal and long term changes

- ▶ Identify change and trend over time, daily activity (Changes in income etc.)
- ▶ Look for project impact
- ▶ Impact of changes in government policy, household adjustment to AD and project intervention

3. Flow

- ▶ Identify and represent the flow component of the systems (market flow)
- ▶ Show linkage and flow components and ask what happens if certain linkages break down

4. Decision making process

- ▶ Local rules and regulations for community organizations

5. Evaluation performance of project interventions

- ▶ Project effectiveness (increasing income and livelihoods of beneficiaries)
- ▶ Sustainability of Project activity and performance

Findings and Interpretation

Background of Nong Hoi village:

Nong Hoi Kao village is situated at some 1,250 meters above sea level. It lies some 7 km from Mae Rim Samoeng Highway or about one hour drive from Chiang Mai. It is populated by Hmong and Lisu ethnic minorities living in some 107 Households consisting of 160 families and a total population of 692 in 2002.

Until 1984 the village relied on opium poppy cultivation for cash income providing some Baht 4,000 per family per year. The Royal Development Center started extension activities from 1984 in the Nong Hoi area. Presently there is no opium poppy being cultivated in the area.

Structural pattern analysis

The team found three main management structures in the village:

1. Village administrative committee structure
2. Nong Hoi Royal Development Center Management structure
3. Community Organizations Management structure

Village administrative committee structure

There are nine members of the Village Administrative. one headman, one deputy headman and seven assistants make shared decisions. All nine members were selected by village voting system and not paid salary by the Government. The Government only pays per diem. The headman gets 1,300 baht and 4 assistants get 800 baht per month. The village administrative committee is responsible for village development, security and welfare. This includes management of the village saving and credit development revolving fund. Linkages between the village administration and the committees are monthly meeting and reporting and ad hoc meetings as needed.

Nong Hoi Royal Development Center Management Structure

There are a total of six units under one director and one deputy and 10 staff.

1. Center administration unit
2. Production, purchasing unit
3. Extension unit
4. Community socio-economic development unit
5. Nature conservation unit
6. Eco tourist unit

The center is responsible for five villages:

- ▶ Baan Sam Lang, Baan Nong Hoi Kao, Baan Nong Hoi Mai, Baan Mae Thi, Baan Pang Hai
- ▶ Totaling 332 households, 2,492 people consisting of Hmong, Lisu, Haw and local people
- ▶ The center has two main duties:
 - a) Experimentation and demonstration
 - b) Development and promotion activities include: agricultural extension, social development, forestry conservation and rehabilitation.

Annual Work plan budget for 2002 financial year for the Nong Hoi Royal Project Development Center made through the Highland Agricultural Division of the Ministry of Agriculture and Cooperatives

1	Support to development and occupational promotion	561,182 baht
2	Natural resources conservation	2,928,545 baht
3	Infrastructure improvement	1,130,340 baht
4	Socio-economic development	122,000 baht
5	CBDAC	0
6	Marketing and transportation	194,000 baht
7	Project management	1,760,690 baht
9	Total	6,696,757 baht

Under social development activities include working with:

- ▶ House wife groups
- ▶ Youth groups
- ▶ Health volunteer groups
- ▶ Production groups
- ▶ Community Based Drug Abuse Control group

To conduct training and activities such as

- ▶ Community cleaning day
- ▶ Sports against drugs events
- ▶ Health service
- ▶ Traditional handicraft activities
- ▶ Packaging and marketing

Community Organizations Management structures

Each group has one head, two deputies and one cashier.

Number of Community Organizations identified:

1. Agriculture Youth Group
2. Village Law Enforcement Volunteer
3. Village Volunteer Health
4. Housewife Group
5. Water user Group
6. Farmer Cooperative Group for credit, and marketing
7. Village savings and credit development fund committee

The community organizations or groups were reported to have formed naturally based on needs seen as important priorities by the community.

Season and long-term changes

Annual household income was reported at 4,000 baht mainly from opium production in 1984 and 70,000 baht net income in 2001. Considering a mean inflation rate of 4% annually 70,000 baht is equal to 33,569 baht in 1984 real value which shows an increase in household income by some 739% or 29,569 baht. With a net income of 70,000 baht per year monthly household income can be calculated at:

Baht 5,834
US\$ 139
Kyats 139,000
Dong 2,085,000
Kip 1,504,675
RMB Yuan 1146.75

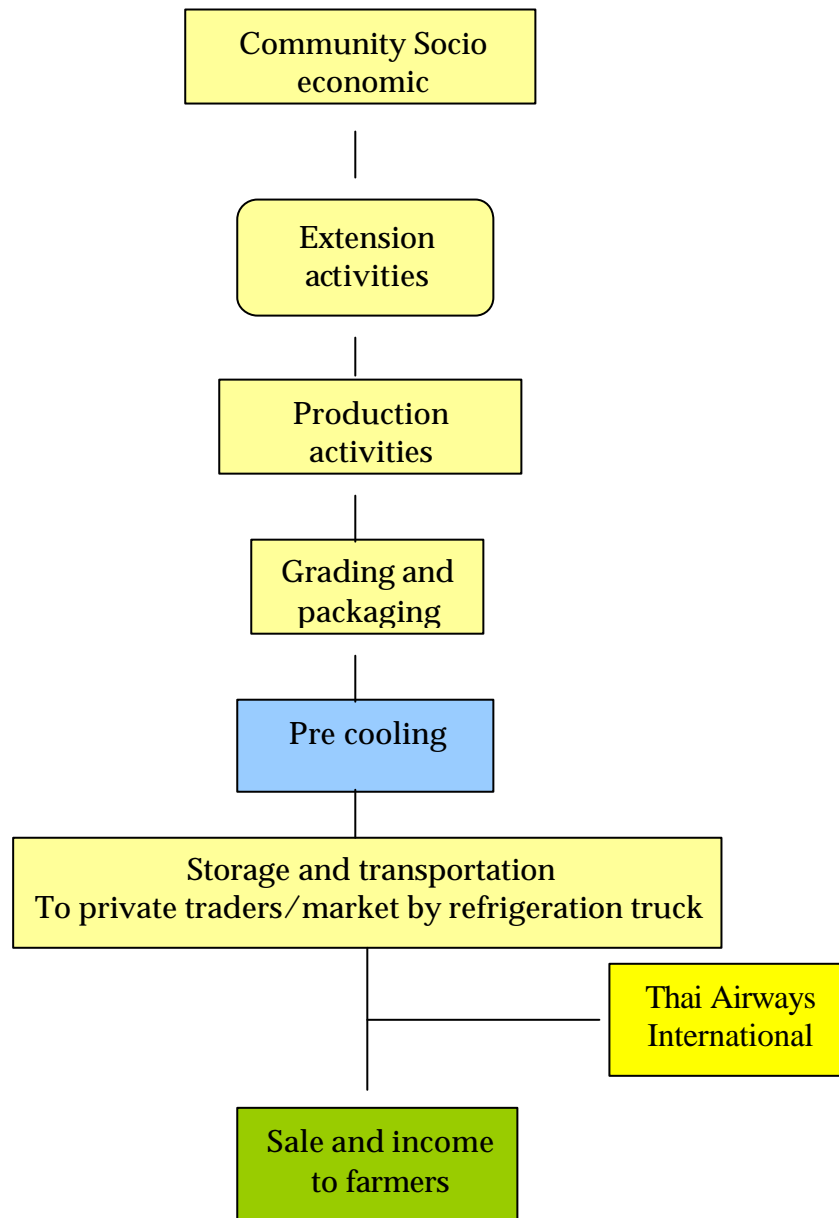
It was reported that in 2001 a total of 1,400 tons of vegetable products was produced bringing an income of 17,000,000 baht to Nong Hoi village through the Royal Development Center in Ban Nam Hoi. Considering 107 households this indicates that each household receives a gross income of 159,000 baht. Direct observation indicates that many households enjoy high living conditions with many households owning pickups and satellite television. Other social infrastructure basic needs such as water, electricity, road access, schools, health facilities appear to be provided. A good income generation opportunities through the production of 39 species of vegetables marketed through a nation wide market network facilitated through the Royal Foundation guarantees a steady income for many participating families.

Policy changes and adjustments of Government interventions to villagers

There appears to be numerous reported human resource development intervention initiated: Village Administration Committee receive training on Administration and accounting related issues. Training for local capacity for community organizations include: Nursery, Vegetable technology, Crop production, Packaging, Standardization, Chemical use, CBDAC training, HIV awareness, Family planning and Cooking. Initial Objectives of the Royal Project compared to present objectives indicates a shift from prioritizing prevention of forest destruction as a number one priority to hill tribe humanitarianism or human welfare and social

development as a number one priority. Many important stages of the flow chart is supported by the Royal Development Center and the lack of assistance from this source may have a profound effect on the sustainability of the vegetable production and marketing process.

Flow chart. (A case study for vegetable production and marketing which is a key village income source.)



Decision making process

For the village administrative committee (VAC) it was reported that decisions were made jointly as a group. One rule agreed on by villagers was the penalization of 80 baht for failure to fulfil community work. This money would be used for community cleaning activities such as petrol for the rubbish truck. One observation made by the team was the lack of women representation within the VAC. Another was the reported lack of confidence of women to attend training activities because it was felt that they had a lower standard of education. Mostly men attended the crop production and other training and retrained their wives on return. One positive sign was those although men were the reported main income earner of the family, women were responsible for keeping the money and was able to make decisions on spending for daily expenditure. However, large expenditures were still decided by the husband.

Evaluation performance of project interventions

The Royal project has had a significant impact on improving village socio-economic and living conditions as well as continues to provide solid income generation opportunities through vegetable and fruit production, packaging and marketing. Village household income was reported in 2001 to have increased some 739 % in real value since 1984 when the Royal Project first started activities.

The Royal project has spearheaded the development efforts and through its prestige has been able to bring in 15 Government line agencies involvement as follows:

1. Highland Social and Economic Development Office, Department of Public Welfare
2. Mae Rim District Office, Department of Local Administration
3. Forestry Section, Royal Project
4. Chiang Mai Royal Project Research Centre, the Royal Project
5. Mae Rim Livestock Office, Department of Livestock
6. Chiang Mai Inland Fishery Development Centre
7. Chiang Mai Irrigation Project, Royal Irrigation Department
8. Office of Highland Land Development, Land Development Department
9. Mae Rim Cooperatives Office
10. Chiang Mai Hill Tribe Welfare Office, Department of Public Welfare
11. Mae Rim Agricultural Extension Office, Department of Agricultural Extension
12. Highland Development Division, Ministry of Agriculture and Cooperatives
13. Bank of Agriculture and Cooperatives (BAAC)
14. Mae Rim Public Health Office, Ministry of Public Health

15. Mae Rim Primary Education Office, Ministry of Education

(Source: Department of Public Welfare/Hill Tribe Welfare Division, 1997)

The village headman Mr. Munchai said that farmers gave up illicit opium cultivation because the new alternatives provided easier way of production and higher incomes. He however remarked that he was too young to cultivate opium himself although he does remember seeing opium poppy fields in his youth. Villagers as well as project personnel appear to think that the Royal project would go on indefinitely and there appears to be no contingency plans for any ending of the Royal project. The fact is that the Royal project has been able to bring in many other line agencies into a remote area as part of mainstreaming of development efforts that may have never happened but for its' presence in this area.

Emerging issues future directions and key questions for future

Sustainability is a big concern in any development effort especially in such a remote area. The team noticed those large sums of funding, socio-economic infrastructure development was invested into this area. The team was concerned on the following issues:

Large amounts of funding going into water supply

It was reported that 8 million baht (about US\$ 200,000) was invested for rehabilitation of an existing water supply system. Considering a village population of 692 people this would equal a cost of about US\$ 290 per head. A similar new scheme in neighbouring country would cost about US\$ 5,000 or US\$ 7.2 per head for a similar number of people. The team also noted many new plastic water containers being brought into the project area. Considering that water is so important to living and production of vegetables and fruit it is a concern what would happen if water was not sufficient and cost of water was higher than returns from production. The long-term cost and capability of operation and maintenance of the system and the high cost of investment for the new pre cooling system of over 7 million baht for the entire system. Low level of visible participation of local women in the local administrative structures and training programs but the high visibility of women at work. The lack of thinking that the Royal project would ever end and the lack of plans for any such ending. The applicability of replicating this approach in neighbouring countries is not thought to be feasible because of high investment compared to small number of beneficiaries, limited access to a guaranteed market in neighbouring countries.

Recommendation and implications

It is recommended that the Royal Development Center continues its assistance and support until mainstreaming of all activities is ensured. It was heartening to see that about half the students in one class were girls which was a good sign for the future and the attendance and support to girls to higher education must continue and be supported. The approach taken appears to have led to a significant improvements to socio-economic and living conditions but a review of existing land use and population support ability of the land as well as water resources should be carried out in view of the expected increase in population and demand on limited resources.

The team was concerned about the high cost of investment in a remote isolated area with few beneficiaries. However it may be necessary to think beyond economic feasibility and consider the political implications for ethnic minorities development for solidarity, stability and security in border areas to justify the approach taken in this case study. The team was satisfied with the choice and use of evaluation tools and found the experience enlightening and enriching. However the two hours provided was deemed too short to make a proper assessment. It was not possible to verify information collected from more key informants who were not available. Some relevant documentation could not found due to the time constraints either. The team apologies for having made any mistaken assumptions, conclusions and recommendations due to the constraints mentioned above.

**UNODC Regional Training
MONITORING AND EVALUATION FOR
ALTERNATIVE DEVELOPMENT PROJECTS
11-16 November 2002
International Center (IC), Chiang Mai University
Chiang Mai 50200, Thailand**

11 November 2002

08:30-09:00	Opening and introduction	Luechai Chulasai and team
09:00-10:30	Overview of illicit drug situation and Alternative development in Southeast Asia Workshop 1: Review of Country Project Documents: Monitoring and Evaluation	Sanong Chinnanon Country Working Groups
10:45-11:15	Coffee Break	
11:15-12:30	Module 1: Conceptual framework for Alternative Development	Kanok Rerkasem
12:30-13:30	Lunch Break	
01:30-03:00	Module 2: Introduction to Designing and implementing AD project: monitoring Discussions on Modules 1 and 2	Chaiwat Roongruengsee and Satiean Sriboonruang
03:00-03:30	Coffee Break	
03:30-05:30	Presentation of Country Review: sharing the experiences	Country Working Groups
06:00-08:00	Dinner Reception at IC	

12 November 2002

08:30-10:50	Workshop 1 (cont) Revision of Country M&E future plans Module 3: Designing and implementing project M&E: Evaluation	Country Working Groups Satiean Sriboonruang
10:50-11:15	Coffee Break	
11:15-12:00	Discussion on Module 3	

12 November 2002 (cont'd)

12:00-01:30 Lunch Break

01:30-03:30 **Module 4:** People's participation in AD monitoring and evaluation: How do we go about it? Kanok Rerkasem

03:30-04:00 Coffee Break

04:00-05:00 General discussion and comments Panelists: Resource persons

13 November 2002

08:30-10:30 **Workshop 2:** Field testing for M&E Tools and Methods
- Project Background
- Project Activities and Annual Work Plan
- Topics for Field Testing Kanok Rerkasem
Sanong, Chinnanon,
Satiean Sriboonruang
and Warapong Boonma

10:30-11:00 Coffee Break

11:00-12:00 Working Group on field planning, selection of tools and methods for field data collection

12:00-01:30 Lunch Break

01:30-03:30 Working Group continues

03:30-04:00 Coffee Break

04:00-05:00 Group presentation on design of field work, tools and methods for field data collection Panelists: resource persons

14 November 2002

08:00-09:30 Leaving IC and travelling to Field Site, *Hmong* community in Mae Rim district Warapong Boonma,
Kanok Rerkasem and
Satiean Sriboonruang

09:30-10:00 Project Briefing and meeting community Director of *Nong Hoi*
Royal leaders
Development Center

10:00-12:00 Field work: data collection (field walk, village appraisal and sketch maps, key informants and household interview etc. Group Tasks with the
accompany of
Interpreters

14 November 2002 (cont'd)

12:00-01:00 Lunch Break

01:00-02:15 Meeting with Project Manager, community leaders and key informants to conclude the field data collection

0400-0530 Travel back to International Center (IC) via Doi Suthep for sight seeing

15 November 2002

09:00-10:00 **Module 5:** Data analysis, presentation and reporting

Satiean Sriboonruang,
Sanong Chinnanon and

10:00-12:00 Break up for small group session on field results, data analysis and reporting (coffee served during the group session)

Kanok Rerkasem

12:00-01:00 Lunch Break

01:00-05:30 Small group session continues

16 November 2002

09:00-10:30 Group Presentations

Working Groups

10:30-11:00 Coffee break

11:00-12:00 Group Presentation and Discussions

12:00-01:30 Lunch break

01:30-03:00 Overall Conclusion of the Workshop
Feed backs from participants
Presentation of Certificates
Closing remarks and Group Photo

Sanong Chinnanon and
Resource persons

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**Regional Training on Monitoring and Evaluation
for Alternative Development Projects
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Chiang Mai, Thailand
11-16 November 2002**

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