RURAL DEVELOPMENT FORESTRY NETWORK

PARTICIPATORY LAND-USE PLANNING
FOR NATURAL RESOURCE MANAGEMENT
IN NORTHERN THAILAND

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SUMMARY

In recent years the uplands of Northern Thailand have been experiencing rapid population growth and associated environmental problems. Conflicts over the use of natural resources are common. This paper reports on a social forestry scheme in the area, and its successful use of Participatory Land Use Planning (PLP). The conceptual framework underlying this approach is discussed, and the procedural steps outlined. An innovative aspect is the use in village meetings of large-scale aerial photographs and three-dimensional, physical models. Key features of the entire process are negotiation, and the development of a partnership between all concerned parties. Field experience has led to the modification and improvement of PLP. It is argued that the method has wide-reaching uses in rural development forestry and other natural resource management schemes.

RESUMEN

En los últimos años, la población de las zonas altas del norte de Tailandia ha aumentado rápidamente. Esto ha acareado problemas de deterioro del medio ambiente y conflictos sobre el uso de recursos naturales. Este artículo examina un plan de forestería social vigente en esta zona, que usa métodos de Planificación Participativa del Uso de Tierras (PLP) con buenas resultados. También discute el marco conceptual de este enfoque y expone las etapas seguidas por este proceso. Uno de los aspectos más novedosos es el uso de fotografías aéreas y modelos tri-dimensionales durante encuentros comunales. También, da énfasis al desarrollo de negociaciones y asociaciones entre todas las partes involucradas. Las experiencias de campo acumuladas de esta manera han permitido modificar y mejorar el enfoque de la Planificación Participativa. El autor plantea que este método tiene amplias aplicaciones tanto para el desarrollo forestal rural como para otros planes de manejo de recursos naturales.

RÉSUMÉ

Ces dernières années, les hauts plateaux du Nord de la Thaïlande ont connu une importante croissance démographique et des problèmes écologiques qui y sont liés. Il n'est pas rare que des conflits éclatent en liaison avec l'utilisation des ressources naturelles. Ce rapport présente un système de foresterie `sociale' mis en place dans la région ainsi que son utilisation réussie de la méthode de planification participative d'usage des terres (Participatory Land Use Planning PLP). Le cadre conceptuel sous-jacent à cette approche y est discuté et les démarches de procédures y sont soulignées. L'un des aspects innovateurs est l'utilisation, dans les réunions villageoises, de photographies aériennes et de modèles physiques à trois dimensions. Les facteurs-clés du processus global sont la négociation et le développement d'un partenariat entre toutes les parties concernées. L'expérience du terrain a conduit à la modification et à l'amélioration de la PLP. On

reconnaît que l'utilisation de la méthode est de longue portée en foresterie pour le développement rural ainsi que pour d'autres systèmes de gestion des ressources naturelles.

A NEW APPROACH TOWARDS RESOLVING RESOURCE CONFLICTS

Northern Thailand is subject to persistent depletion of public forests, watershed damage, and increased industrial activities as well as forest farming in strictly protected watershed zones. This reflects critical social problems relating to land-use conflicts among neighbouring hill ethnic communities and between farmers and forestry agencies (Tan-Kim-Yong, 1990). Some local indigenous organisations have become weakened and have failed to sustain community efforts to manage local natural resources. This regional trend clearly affects the lives and ways of living of the people.

Over the past decades, there has been an increasing tendency for agencies to emphasise the technical dimension of problems and programmes. Many current development projects dealing with the conservation and management of forests and sloping lands emphasise highly technical and costly activities. Moreover, these schemes promote hillside farming technologies and practices without first taking careful steps to establish, or re-establish, community cooperation or to strengthen local organisation. This does not foster their long-term sustainability.

Resettlement and reforestation policies have yet to receive general public support. They have instead increased resentment among tribal communities and local groups. Public programmes amongst hill ethnic communities have misguidedly focused mainly on social welfare activities and national security control. The resettlement programme is an example of a most undesirable and expensive operation in which the government aims to create a mass out-migration of hill people to lowland areas (Tan-Kim-Yong, 1990:90). Recent literature notes that both technical programmes and resettlement programmes in many countries have failed to receive cooperation from farmers and local communities (Carson, 1990).

The present trend in development is towards more attention to the simultaneous security and sustainability of human lives and nature. Resolving forest land conflicts requires the formation of building blocks to achieve social and behavioural change. A pilot project in Social Forestry, based on this precept, has been operational in northern Thailand for four years. Funded by the Ford Foundation, and implemented by the Royal Forestry Department (RFD) and Chiang Mai University (CMU), it is achieving reasonable success. This paper explains the social forestry scheme and the application of its operational methodology in land-use planning.

CMU and RFD have worked closely to seek appropriate methodological approaches and to develop them for social forestry programmes in the hill communities of small tributary basins[1]. This land-based social forestry project underwent a preparation stage from 1986 to 1987. It has

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[1] CMU conducted an exploratory study on `Natural Resource Utilisation and Management: an Intermediate Zone Crisis' during 1985-87 and began a small collaborative project with RDF on social forestry in three small basins where several ethnic minorities (Hmong, Karen and Lisu) live.

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operated from 1987 to the present time. A method of land-use planning[2] has been applied by RFD and CMU as a sociological methodology and key tool in the physical design of hill area landscapes.

Here, I argue that this land-use planning method is one which can be integrated into the social forestry development process from the earliest stage through to project completion. It centres on the organisation of farmers and local groups for community action, within the framework of a continuous and regularised relationship. Participating in activities does not automatically mean that the farmers will form a group or that they will become active members. Membership requires and presupposes shared understandings of what is and what ought to be the way that members deal with one another. On the basis of such understanding there can be a predictable interplay between roles, comprising the relationships that constitute the group (Wilson, 1966).

PARTICIPATORY LAND-USE PLANNING FOR SOCIAL FORESTRY

Highland agricultural development schemes have been conducted in Northern Thailand for several decades. The programmes include land-use surveys to assist planners to design an office-based land-use and agricultural system. This information is collected by and provided to project experts only.

It is already widely recognised that an information system is an essential element for decision-making and control in any development scheme. Hence, information should be shared with the general public, and especially with rural people. Dealing with changes in local systems and lifestyles in hill areas requires that farmers should themselves have access to information and take major roles in deciding and managing their own natural resources and environment.

A participatory land-use planning (PLP) strategy has been developed as an operational method by CMU to stimulate continuous interaction in problem-solving activities and learning. This process to strengthen local organisation can lead to the establishment of local community organisations for managing forest/land-use. The scheme received support from the Ford Foundation and pilot activities were carried out in small basins where ethnic groups lived as neighbours and shared surrounding resources.

In implementing this scheme, the RFD trained project personnel to work as community organisers (COs). COs work closely as partners with farmers to identify problems and alternatives for better forest management, and improvements in the local economy and quality of life. They have applied PLP as a key operational tool. During the project gestation the land-based social forestry scheme became a strategy to resolve land problems between farmers and the RFD and

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[2]   Jefferson Fox provided supervision for the team in its study of land-use practices in the Upper Mae Khan Basin, and worked closely with Sanay Yarnasarn to diagnose land-use conflict between Hmong and Karen in Pha Kia Basin, a small tributary basin of Mae Khan, Chiang Mai Province. The diagnostic tool using aerial photographs, sketch maps and semi-structured interviewing has been applied to problems on conflict over state forests and lands. (See Fox, 1988; and Carren, 1990). The CMU-Resource Management and Development Programme has modified the method and developed it into one to be used within an operational process. The method called PLP has been experimented with since 1987 to 1991, under on-going schemes in small basins.

amongst farmers themselves. Also, an attempt was made to increase security in land-use rights and in the subsistence of poor hill farmers.

PLP is an induced process to stimulate an active interaction among farmers and between farmers and agencies. It attempts to reduce local resource tensions and to establish permanent long-term relationships. Identifying and solving problems is seen as a gradual process. As project partners work together through stages to improve situations in land-use and forest management, both develop a common understanding of local problems (Fox, 1988). In Thailand, as the pilot project proceeded, RFD and farmers became more willing to work together as active partners.

Through four years of field operation experience, CMU has developed the PLP method and has gained sufficient knowledge to apply it to areas where similar local situations exist. The method can still be further improved and adjusted to fit other types of socio-cultural arrangements and physical settings in Asia and elsewhere. During the period of the pilot project, CMU and RFD also extended concepts and the operation of PLP to other RFD schemes and other inter-governmental development programmes in the northern region[3]. Other development schemes have integrated PLP into their design and operation under varying project contexts and project cycles.

The following section will explain how RFD personnel, COs and social researchers work in a coordinated fashion with farmers through a series of steps, until a specific land-use design for each village and basin is agreed and implemented. Different techniques of negotiation and types of incentives are used to stimulate the involvement of tribal groups in planning and decision-making.

The risks and opportunities of PLP will be discussed after the method is presented. This will facilitate a better understanding of how PLP works in various local situations. Briefly, one section will deal with strategies for working with specific ethnic groups, such as Hmong, Karen, Lisu and lowland northern Thai. The RFD has recently become more sensitive to social and cultural issues, as foresters have begun to work closely with hill farmers. It is now agreed by the Department that foresters need to understand socio-cultural distinctions among peoples and to recognise variations in local situations.

THE RESOURCE CRISIS IN THE INTERMEDIATE-ZONE

Of a total hill population of more than 600,000 persons, the Karen comprise the majority of more than 300,000 people residing in the lowland valleys. They are concentrated in an intermediate or middle zone of Thailand's northern region (600 m to 1500 m above sea level). A report from Chiang Mai University (Tan-Kim-Yong, 1988) indicates that recent population growth in the middle zone has created pressure on the region's natural resources (forest, land, and water). During the last two decades, there has been a migratory flow away from both the highlands and

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[3] Under a pilot scheme, the model of social forestry is designed to coordinate the office of community forestry and the watershed management units, and to integrate social forestry activities and methods into the existing highland development programme, such as the `Same Muen Highland Development Project (SH-HDP)'. Directly and indirectly the models and methodologies have been widely recognised and accepted by staff members who have extended their knowledge of these methodologies and activities to other similar programmes and projects in northern Thailand.

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lowlands into the middle ecological zone. This phenomenon has been experienced in many areas within the nine provinces of the upper north. The Karen, being the major group of this zone, are particularly affected. They have been driven into ever more marginal highland slopes and narrow valleys. All ethnic groups are now competing with each other to survive under these harsh environmental conditions. A resettlement programme and some highland development operations have created a flow of Hmong, Lisu, Lahu, and Yao into the intermediate areas. Some ethnic families who traditionally cultivate swidden crops, opium and corn, have resettled in the deserted villages of the Karen. The migration of these groups is a gradual process. After a few years, the migrants tend to change their pattern of forest/land-use. Many Hmong have bought irrigated rice fields from the Karen, and have eventually occupied whole villages. A pattern of migration of poor and landless lowlanders into the middle zone is also apparent. For Karen communities, this process has created a sandwich-like condition. An over-exploitation of forest land and disputes between ethnic communities is becoming increasingly aggressive and obvious.

A study by CMU social scientists (Tan-Kim-Yong, 1988) suggests that public policy and a plan for the northern region should be given priority, and development resources provided to resolve problems in the middle zone. A rural development policy and programme should be emphasised in the nine provinces of the upper Northern Region. Thailand's five-year development plan (7th National Plan, 1991-95) needs to integrate social forestry as a major component of forestry sector development.

In many areas, local indigenous institutions seem to be failing to maintain forest and natural environment stability. Disputes among families and between ethnic groups have been frequently reported by project personnel. Without appropriate intervention, the situation in some of the areas reported upon may become critical. More forest land in strictly protected watershed zones will be damaged. Community management of forest resource is certainly a necessary approach to solve local problems in northern Thailand.

To understand and operate a forest management scheme with social and cultural concerns, the forest agency and social scientists should work closely together. Such a scheme should aim to develop operational lessons as well as attain positive results. To implement a social forestry scheme in three small basins of northern Thailand, a team comprised of a sociologist, an anthropologist, a geographer and an economist from CMU is now responsible for providing support for research and training. A learning process, and monthly team meetings are practical measures applied to the implementation of the programme. What is unique about it is an attempt to apply a method of participatory land-use planning to stimulate active local participation and to achieve the formation of stronger community organisation.

FOREST MANAGEMENT AND CONFLICT

Observations of the forestry situation within the northern region indicate five important issues, notably that:

! there is increasing competition and tension around forest resource-use among local communities;

! public policies and laws are not relevant to local current resource problems;

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!   indigenous institutions and communal group management schemes are being eroded;

!   landlessness amongst hill farmers is increasing;

!   there is an increasingly distant relationship between RFD foresters and villagers.

Moreover, an increasing number of poverty stricken villages and areas have been reported. Evidently, the number of landless families and waged-labourers is increasing in hill villages.

A distinction in cultures and land-use practices among ethnic groups is observable. Of all groups, the Karen are considered to be an ecologically concerned people who practice conservation-oriented agriculture. Around Karen villages, the peaks of hills and the lower catchment areas are always preserved as communally protected forest areas. Moreover, adjacent slopes and hills are usually believed to be areas reserved for community use and conservation purposes in order to, for example, maintain moisture and water needed for daily living and for cultivation purposes (Tan-Kim-Yong, 1990, Jantalert, 1991). Area land-use patterns caused by migration and new settlements of highlanders are becoming increasingly complex. Resentment is shared by all groups.

THE SITUATION IN THREE MOUNTAIN VILLAGES

Three mountain villages (Khun Sa Nai, Pang Khum and Kui Thuas) have been reported to be undergoing a forest resource crisis. Located in an upper intermediate zone (1,200 m to 1,500 m elevation), these project sites differ in their physical and socio-cultural characteristics. Under a social forestry scheme, foresters have been assigned to investigate human and cultural aspects.

Pang Khum is the largest village (comprising 103 households), and is inhabited by two ethnic groups, the Karen and the Lisu. The average land holding size is small (between 7 and 4 *rai*), and intergroup conflict is high.

Khun Sa Nai[4] is a Hmong village located in a small basin of Mae Hong Son Province. Its forest and watershed areas are not classified in forest regulations as strictly protected zones. Not having been assigned a watershed classification regulation makes it possible for the RFD to respond with some flexibility to the desire for security in land-use among Hmong households. The Hmong moved into the village during the last 30 years, buying irrigated land from the Karen. They gradually learned from the Karen and developed a sustainable system of wet-rice cultivation in the hill valleys. Following the traditional practices of the Karen, they have been able to preserve some protected watershed forests. A need for irrigation for wet-rice cultivation is definitely an incentive to preserve watershed areas and water resources. However, the village's rapid population growth created a great impact, necessitating an expansion of the cultivated area upward into more steep and sloping lands.

Kui Thuai is presently the home of Khonmuang lowlanders who migrated into the area more than

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[4] This was a village studied in the book, *Resource Scarcity and Hmong Response* (184) by Robert Cooper. He discussed in a great detail changes in management strategy and resource scarcity.

50 years ago. These people produce *miang* or wild tea for the local markets in Chiang Mai, Lampang and Lampoon. The growing of it is widely recognised as a sustainable form of agriculture (or a type of agroforestry), the practice being indigenous to the northern region (Castillo, 1990). However, *miang* producing areas are generally attractive to landless farmers, who come seeking year round waged employment. To foresters, a high risk in the system is a tendency for forest destruction caused by landless families. Moreover, a heavy requirement for fuelwood in processing wild tea is a serious concern of the RFD. The enormous use of fuelwood four to five times a year means severe damage to the watershed. A trend of upward *miang* production and a simultaneous reduction of fuelwood supplies is evident. More problems may emerge because the village is located in the highly restricted areas of the class I of watershed classification (Castillo, 1990).

SOCIAL FORESTRY STRATEGIES SPECIFIC TO LOCAL NEEDS

In response to these various local situations and different forest management problems, the RFD has initiated a different set of strategies and methods. General measures identified comprise four activity system plans: land-use planning, formation of a community forestry organisation, agroforestry practice and community forest management. RFD and CMU social scientists have emphasised the method of participatory land-use planning as a strategic tool for guiding field operation. The project revolves around a partnership form of RFD-community management. Techniques and organisational arrangements have to be adaptable and responsive to specific problems and needs, and sensitive to local socio-cultural and ecological aspects.

PARTICIPATORY LAND-USE PLANNING (PLP) AS A KEY IMPLEMENTING TOOL

Land-use planning is a geographical and urban design technique. Participatory Land-use Planning (PLP) is a process involving local people in the management and development of forest and land resources. Creating a common understanding of concepts and way of thinking and acting in village situations can be quite complicated. Therefore, a simple method is required. During the operational stage, standard audio-visual equipment is often used as part of an information campaign without a careful assessment of the pre-operation stage. This method and its results have not yet been studied carefully due to time and budget constraints.

Recognizing that the information and communication system is the key to participatory decision-making demands that all parties have equal access to information. They may then develop a common understanding of forest problems. In this way we are able to anticipate and promote active interaction between the RFD and the people. Many social scientists have witnessed failures in attempts to encourage real interaction. One efficient method is the application of visual material such as a picture, written words, a diagram, map etc. These devices can help make problems visible to all participants at a low cost and without complicated maintenance. The problems of forest resource and environments can especially be visualised by villagers who are frequently exposed to a simple physical model representing their village systems and surrounding forests.

PLP seeks to encourage forest management practices according to the principles of social forestry. When it comes to actual operation in the three villages, cooperation becomes an outcome of several stages decision-making about forest/land management. Reasonable progress has been observed after four years of pilot project implementation. The RFD has now also begun to

experiment with integrating social forestry elements into other existing rural development schemes.

The operational steps of participatory land-use planning are as follows.

     (1)   preparation (reading and interpretation)
     (2)   survey
     (3)   utilisation and adjustment
     (4)   field application
     (5)   agency's design
     (6)   community's design and negotiation
     (7)   actual operation.

Community organisers (COs) have been responsible for applying PLP in the target villages, under the supervision of field unit heads and researchers.

Field sites were identified by social scientists (a geographer and an anthropologist), who collected maps and aerial photos. An interpretation was then made to produce a base map of the most recent year (1983). A survey was carried out by researchers and villagers to locate and update the territory of local communities and to identify the existing land-use patterns of the three basins (1987). During the survey, aerial photographs of a scale of 1:50,000 were enlarged to a scale of 1:5,000. This was done to provide farmers with better visibility and to facilitate their understanding of their land-use patterns, and the relation of their lands to those of neighbouring villages within the local microcosm. The maps of 1:10,000 and 1:5,000 were used interchangeably during the survey and during subsequent village meetings.

The RFD watershed management project[5] has been working on physical model building to enable the visualisation of the dimensions of mountain zones currently undergoing reforestation activities. The three-dimensional models are placed in an office to be used by all experts during meetings and planning sessions. Seeing these models as a useful learning tool when combined with maps, CMU initiated ideas to modify them into a form that could be located and used by the villagers, who can then continue to work independently to solve their forest and land problems.

The villagers take part in creating the model to be used. The basic materials employed are cardboard, glue, paint, and large scale contour maps. A piece of cardboard is cut out to the shape defined by each contour; the pieces are then stuck one on top of each other, creating a three-dimensional representation of the local topography. On this the villagers paint in streams, plots of agricultural land, forest, and other relevant features.

A model provides a forum for discussion wherein whoever wants to address problems to the group can do so. In the absence of organised meetings and discussions, negotiations are virtually impossible, especially for parties of different social-economic status (rich and poor farmers) and between agencies and farmers. Observations in the field have shown that PLP use of models and

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[5] The office of watershed conservation in Chiang Mai Province is responsible for the Sam Muen Highland Development Project, and has been working in collaboration with the office of development of community forestry and Chiang Mai University in the social forestry scheme.

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maps can assist in the settling of disputes between better-off and poorer farmers. During village meetings, those who want to extend their cultivated land, and those who currently over-exploit forest lands can not do so without the groups's supporting decision. Rich farmers avoid any visible evidence which might serve to embarrass them, eg. if they secretly clear new land. More opportunities are opened up for poor and landless farmers to earn the right to make use of potential areas, and to defend themselves in front of RFD officials.

With PLP, a functional working relationship between RFD and farmers is developing quite dramatically as they become collectively involved in problem solving. Alongside regular meetings and active interaction among concerned farmers, the community organisation of forest management activities is gradually developing.

During 1987 COs worked with villages and groups in an attempt to develop a common interest and understanding of local forest problems. Major ground work was done to make all materials visible to the farmers. In addition to meetings and discussions, farmers were slowly exposed to new concepts and encouraged to learn about varying environmental issues. For example, after a heavy rain, a CO and a group of concerned farmers collected water from a nearby stream. Further, they used the physical geographic models to locate the source of problem areas and the effects of those problems. When the meetings became regularised, increased information feedback created a continuous and collective problem-solving effort. The community organiser took an active role in helping villagers to resolve existing tensions around local resource situations.

As has been stated, the frequency of interaction is related to peoples' efforts to accommodate one another. Common conceptions of a range of subjects are developed and reinforced. This is relevant to what is called a uniformity in the cultural fabric which in turn enhances group solidarity (Wilson, 1966)[6]. The development of a common conception of equitable resource sharing has a definite positive effect on efforts to sustain long-term group solidarity.

Since the commencement of the PLP process, villages have made definite improvements to their forest reserves. They have also settled a number of disputes, in order to seek ways of carrying out conservation practices. The RFD has gradually become more acquainted with its new role, and more inclined to allow flexibility in cases requiring negotiation. It has moved away from the conventional role of guarding public forests and watersheds. There have been material changes in land-use practices, management of tree nurseries and agroforestry activities in the project area.

THE PLP STRATEGY AND PROCESS

PLP is defined in reference to its application in social forestry schemes as follows:

> PLP is an operational tool or process which creates conditions of frequent communication and analytical discussions, hence strengthening local organisation by generation common understanding and shared rights and responsibilities away

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[6] Wilson clarified the propositions of a common habitat, frequency of interaction, common conceptions and group solidarity. He reconfirmed what has been described by Durkheim as `moral density'.

project partners who carry out activities which lead to the solving of local forest management problems and other related community problems.

Planned change is both a personal as well as an organisational phenomenon. Thus the major contexts within which it occurs are that:

(1) an organisation services the needs of its environment;

(2) individuals (client and planners) serving their personal needs interact to identify mutually derived objectives and the means for their achievement (Bennis, 1976).

Planned social change is directed toward increasing control over resources or the conditions of existence. One can distinguish between theories which assume change occurs as a result of altered social conditions, and theories which locate the origin of social change in personal change.

PLP as a sociological methodology can be applied to create conditions of active communication between an external agency and local people. Understanding based on the sharing of information and decisions can sustain close interactions and direct relationships between an agency and local people working as a single group.

One specific strategy emphasises the promotion of change within small working groups and organisations, rather than through change in individuals per se or in society as a whole (Crawfoot and Chesler, 1976)[7]. Furthermore, individuals are viewed as occupying a role. PLP in Thailand has been a process involving the RFD and farmers in exchange situations identifying problems and seeking resolutions which both serve the needs of the local community and fit with RFD objectives. Thus it is based on real trust among people and between an agency and the people. Group cooperation can be developed if the participatory activities are regularised and become routine practices. Thus PLP is identified as a sociological method within a development process for natural resource management.

A participatory planning process can also be explained as a role transformation among agencies and villagers. Both the agency and villagers are encouraged in joint decision-making and planning sessions to produce land-use models and agreements. They learn to play new roles as partners. In the social forestry project described in this paper, several types of maps, aerial photos and physical three-dimension models are used as communication tools with people of different ethnic backgrounds and cultural conditioning. Visual forms and symbols are designed to facilitate communication between Karen, Hmong, Lisu and lowland northern Thai. As noted, over the four years of operation communication between the RFD and local communities has improved progressively. During the fourth year, both parties worked closely to improve land-use and forest management practices according to the agreed design. A common understanding of problems and resolutions has further encouraged a functional relationship between partners (RFD and farmer groups) which has enabled the formation and strengthening of community organisation.

As stated by Crawfoot and Chesler, this

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[7] A clarification made by Bennis, 1976: 189.

"....change strategy for groups, organisations, or communities rests upon creating more rational problem-solving systems through which groups of individuals establish new norms, new role definitions and operating procedures. Collective problem-solving efforts are undertaken to help develop new responses to changing situations and to provide individuals with more satisfactory socio-emotional settings in which to perform. Emphasis is usually placed upon more informal and open communication patters which generate new forms of information transmission and social relationship." (Crawfoot and Chesler, 1976)[8].

To further clarify the conceptual framework, it is necessary to classify key concepts into operational forms. Robert R Mayer defines social-structural change as "alterations in the pattern of relationships which exist among people involved in a given situation". An involvement is called a system of social relationships (Mayer, 1972). Mayer also suggests that planned change is rendered operational through a change in roles. Evidently, structural rearrangement can be introduced into a planning process in which an agency and a local community can work closely within a participatory context. Therefore, in each operational stage, the introduction of a community organiser into the planning process is a case of rearranging an agency's role as a partner with local people. The attempts of the project to regularise interaction between partners can further encourage the development of a problem-solving system that can promote the achievement of concrete outcomes of such activities as improved land-use practices, use-right security, and acceptance of agreements among local groups and individuals. The PLP process contains sociological concepts and perspectives and has been developed through its application to the actual operations of a social forestry scheme.

PARTNERSHIP AND NEGOTIATION

Since effective community organisation is not considered as a given condition, it cannot be rapidly developed. It was therefore necessary for the project to establish PLP operational procedures.

The way in which villagers became actively involved in group meetings and problem-solving was a result of continuous encouragement by the COs. To facilitate an understanding of the success of the PLP approach in this case, this section will present a list of the specific steps which were taken during its application. These steps include the following:

> ! stimulating villagers' interest in general problems of forest management and land-use

> ! increasing local realisation and visualisation of specific forest management problems, land-use conflicts and relationships between people and their environment

> ! reorienting or establishing new sets of partnership roles

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[8] Crawfoot and Chesler summarize these conclusions from Sofer (1964) and Davis (1967).

> **!** encouraging frequent community and group meetings to respond to emerging seasonal problems

> **!** regularizing meetings and sharing in decision-making by local groups

> **!** combining strengths of old and new leadership

> **!** creating visibility for the community's functional groups

> **!** encouraging partnerships among villagers and between ethnic groups in land-use design and forest management

> **!** promoting the formation of community organisation and the acceptance of agreements for social forestry action

> **!** establishing organisational regulations to aim at organisational sustainability and group roles for community-managed social forestry.

Negotiation is a key technique within each step. COs had to be trained and retrained to be able to adjust and respond to changing situations and problems in the three villages. In Khun Sa Nai, the CO negotiated successfully to settle disputes about watershed protection and the use of sloping lands. During operations the Hmong became receptive to an agroforestry technique for growing cabbage on steep slopes. The primary technique applied to working with this ethnic group was the process of negotiation. The CO had previous experiences with Hmong tendencies to be satisfied when they came to understand clearly what the shared benefits might be, and what the shared duties would be in a new set of activities. Villagers also discussed the problems of water shortages and sand deposition in the rice fields. With the use of a map and topographical model, they came to understand that the problem was caused by critical damage to the watershed area used by the villagers. The CO was able to find a common point of view on problems and resolutions. Gradually, understanding of complex environmental relationships was improved. Villagers were able to visualise their problems of local forest/land management and could communicate their views to COs and the RFD.

In the villages of Pang Khum and Kui Thuai, COs used different techniques of negotiation. As already noted, Pang Khum is composed of two ethnic groups of distinctive culture and land-use patterns. In the past there have been cases of confrontation and disputes between the two groups. During the negotiation period between the Karen and Lisu, an external legitimate party was required to guarantee equal treatment for both groups. Regularising and formalising meetings was also used as a means of reconfirming amongst villagers their common goals and shared responsibilities and rights. Operations in this village took longer and required more external and political support than elsewhere. The RFD decided to launch a small sub-project of land allocation. This provided opportunities for weak or landless villagers and Lisu who had small land holdings. This was believed to be a feasible way of reducing tension and conflict before any concrete actions took place.

In the village of Kui Thuai, the CO found the local people (Khonmuang) to be open to negotiation. They were already acquainted with external agencies, and, as a result, were interested in the benefits to be derived from development activities. Living within highly restricted

forest/watershed zones, villagers realised that they should cooperate as a group and work together in social forestry activities. There was an incentive that they might obtain better land tenure security if and when their land-use system improved to the point of becoming more sustainable. Concerning future fuelwood shortage and the possibility of forest damage, the Khonmuang tea-growers had expressed their intention to begin household and community nurseries for seedlings of fruit and various forest trees. One sensitive area of the watershed was chosen to be protected and controlled by a committee selected by the villagers. It is obvious that such negotiations are workable under conditions in which both an external agency and the local community tend to share a common understanding and knowledge of problems, public forest laws and available alternatives.

IMPLEMENTING PLP

PLP is a methodology which can be modified to fit various projects of an integrated development type or of a specific resource-based and area-based scheme. However, it may not be equally applicable under all types of project conditions.

It is essential that the PLP process is designed to encourage the real involvement of people throughout its stages. A general principle of PLP is that all project information is equally shared or accessible to all parties. A simplified and visualised form of information can be shared and understood by all. The use of a large-scale map and aerial photo of 1:5,000 scale provides real visibility to foresters as well as to villagers. The results of the social forestry project indicate that both of them gradually develop a common understanding and become ready to share decisions concerning village land-use plans and related community development activities. A land-based planning process explicitly facilitates the efforts of groups and agencies to coordinate their thinking and their activities.
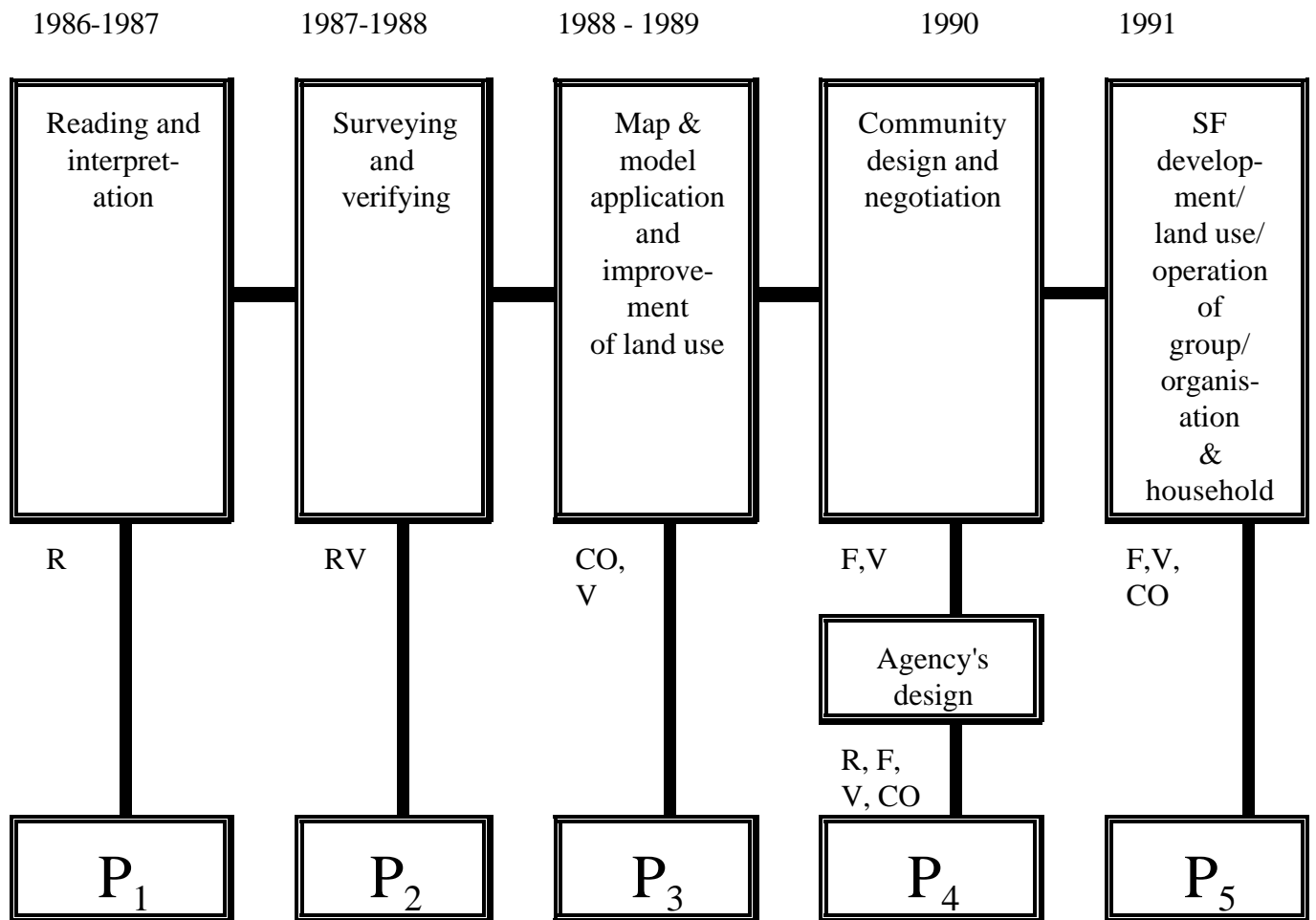
As PLP operations proceed, the weaker party (villagers) are equally well informed and gradually gain more confidence. When villagers are able to visualise community problems and be active in decision-making, it becomes possible for them to have a real input on the formation of cooperative actions and on group organisation in later stages. The following stages represent general guidelines which can be adjusted to fit the particular local situations of a project.

The six general steps of the PLP process are defined briefly as follows:

1   Reading and Interpretation of maps and aerial photographs (P1)

The first activity in this step is the preparation of materials, tools and a field-survey design. All available physical maps and aerial photos should be sorted in order to obtain the best prints of the most current year. An experienced geographer will decide upon the base maps and aerial photos with the assistance of a technician from the project office. A topographic map and photo of a scale of 1:5,000 have to be prepared to cover the site in question. A team comprising of a geographer and a technician/ draughtsman also draws up a survey design.

FIGURE 2 PLP OPERATION

1986-1987	1987-1988	1988 - 1989	1990	1991
Reading and interpret-ation	Surveying and verifying	Map & model application and improve-ment of land use	Community design and negotiation	SF develop-ment/ land use/ operation of group/ organis-ation & household
R	RV	CO, V	F,V	F,V, CO
			Agency's design	
			R, F, V, CO	
P_1	P_2	P_3	P_4	P_5

LEGEND	
R	Researcher
F	Forester
V	Villager
CO	Community Organiser

2   Surveying and Verifying (P2)

With the assistance of a forester from the field unit or a CO the team works closely with the local community to update information about current land-use patterns. The purpose is to spot all scattered and newly opened forest areas under cultivation. Also, detailed information about forest lands, preserved areas, land-use patterns and land ownership patterns has to be recorded. Each day a few villagers join the team for the survey. A discussion of general forest and land situations and problems occurs naturally. Topographic maps and aerial photos help to stimulate

READING AND INTERPRETATION OF MAPS AND PHOTOGRAPHS	! Identify project area map (50,000) ! Identify project area aerial photographs (1:50,000) Develop maps and aerial photographs to be used in the survey (1:5,000 or 1:2,000) ! Work out a survey design to update data and to understand current situations of land use.
SURVEYING AND VERIFYING	! Surveying and spot checking with villagers ! Updating and verifying land-use data ! Identify scale, location, and distribution of household and community land under different uses ! Examine land use patterns and territory of community village, sub-watershed, watershed and district activities Examine land tenure dimensions of land use security ! risks and conflicts in land use Understand inter-community land use/management or ! upstream/downstream relation among relevant communities Produce a series of base maps to be used by the external ! agency, the CO and the villagers.

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exchange of information and concerns about related problems. All facts are recorded on a base map and then addressed at a meeting. Since local people have participated in the survey, the meeting is brought to the attention of many community members. The facts are publicly presented to all parties, both large and small farmers. This becomes an active communication process. People come to the meeting to discuss problems and defend their land-use rights.

A visual presentation is critical in stimulating the meeting to share common concerns about forest and land-use issues. Also, both parties are more willing to compromise when information on maps and aerial photos provides visible relationships between land-use patterns and ecological impacts. The output of the second step is a base map which has been verified and updated. The base map is then used by the CO in facilitating actual activities of land-use design and agroforestry development.

3   Field Application (P3)

The basic information and analytical results derived from the diagnostic stage is sufficient for COs to identify target households, groups and work strategies. Poor and landless farmers are included as priority concerns since they tend to be under food supply stress and hence need to clear new forest lands. The CO begins to learn some of the problems and needs of specific households through house visits and small group meetings. Again, the already developed base map is used to facilitate an exchange of information and thereby stimulate discussion. New land-use possibilities on private plots and public forest have to be brought up during the discussion. The work within this step aims to bring about real improvement in resource management practices within individual plots as well as within community forests as a whole. Response varies, but some households may move promptly to participate in nursery activities, and receive supplies and guidance for improving the use of sloping lands. Various species of fruit and forest trees are identified by farmers. Following tree planting exercises, farmers actively manage their agroforestry plots and share group responsibilities in improving forest conditions. The social forestry CO also comes to portray a new role for the forester. Farmers gradually perceive and appreciate the CO's job and begin to eliminate various misconceptions about the RFD's role. During this step, either newly emerging groups or existing functional groups become more interested and join in the social forestry activities.

4   Agency's Design (P4)

It is necessary for the RFD to produce a forest land-use design of the basin or district identified as the project site. However, the design is far from a conventional land-use model, such models usually being based completely on the goals of use optimalisation. The previous practices among RFD

APPLICATION OF BASE MAPS AND MODELS BY CO AND VILLAGERS	! Apply Base maps for problem identification and discussion by CO and villagers ! CO and villagers produce 3 dimensional model Identify actions and means for improving land use and management ! Establish guidelines and agreements among villagers/parties Carry out activities for better land use practices ! Keep information on land use changes updated; use this to improve practices, understanding and to resolve ! disputes.
AGENCY'S DESIGN	! Design land use patterns according to legal and policy frameworks ! Relax constraints and allow flexibility for feasible actions Examine possibilities to create compromises with local customary laws on land use ! Produce feasible land use designs for implementation by local communities ! Settle negotiations with local communities !

planners has been strictly confined within legal and policy frameworks, leaving little or no flexibility. PLP allows the RFD to come up with a specific area design which is both flexible and sensible in terms of the local community's management situation. A certain degree of flexibility and compromise clearly creates more understanding and appreciation on the part of the farmers and the community as a whole.

5   Community Design and Negotiation (P5)

At this stage, the group may form a number of committees or call a meeting of all members to discuss the land-use plan. Possessing a real concern for and understanding of local ecological relationships and current situations, the group is now ready to draft its land-use design and management plan. The people have come to realise that existing forestry laws and regulations can

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be constraining if a reliable management plan and related practices do not exist. Furthermore, initial efforts in developing agroforestry and community forestry action, launched during the third-step activities, often enhance the awareness of farmers and local groups. As a result, the people's design tends to represent an ecologically sensitive plan, set within the practices of the people. The people's plan is generally found to have few major disparities with the agency's own plan. Negotiations between the RFD and local groups are held to finalise agreements.

6   Operational Land-Use Plan (P6)

The final product of negotiation between partners, the land-use plan, is now ready to be transformed into action. Efforts to improve land-use and forest management are carried out by groups under technical support of CO and the RFD. A social bond among group members is developed progressively as social forestry activities become a seasonal routine in the second and third year. This is a gradual process; there can be no overnight successes if the project really intends to achieve community management and group formation.

TOWARDS COMMUNITY-MANAGED FOREST/LAND SYSTEMS

PLP has been experimented with and improved upon several times, as feedback has come from the users in the field. A key to the successful application of PLP is the combined efforts of all parties to produce and use simple equipment such as maps, aerial photographs and models. A high risk for failure is the training system for personal at all levels, especially
the COs -the principal field agents of the social forestry project. Systematic

COMMUNITY DESIGN	!	Design land use patterns according to community goals and needs
	!	Examine and learn possibilities to reduce conflict and gaps between needs and benefits for the local community in conjunction with neighbouring communities, the region and the nation
	!	Settle or re-establish equity and efficiency principles for patterns of land-use and land tenure
		Design an appropriate land use strategy for the community according to the recognised legal framework
	!	Define strategies and means for negotiation with external agencies
	!	Establish guidelines for feasible participatory action and negotiation with the agency concerned.
	!	

IMPLEMENTING SOCIAL FORESTRY DEVELOPMENT DESIGN	**!**	Establish agreements for action on forest land management among the parties concerned
	!	Form local groups and strengthen the community organisation for managing local resources
	!	Work jointly to carry out activities relating to improvement of land use practices, community forest use and sustainable economic and resources practices
	!	Increase security in land use patterns and tenure systems

and efficient training can guarantee effective future operation and expansion. Project areas encompass diverse cultures and have experienced rapid changes in local situations which can interrupt the project activities. The project has to continue to improve upon the system and the method. In the future, the PLP method can be modified for use in the general development process or in natural resource management. It may also be used in an integrated development scheme under various local conditions.

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ACRONYMS

CMU   Chiang Mai University
CO   Community Organiser
PLP   Participatory Land-Use Planning
RFD   Royal Forestry Department

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Credits