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65927

Project Completion Report

MAE CHAEM WATERSHED DEVELOPMENT PROJECT  
AID Project No. 493-0294

USAID/Thailand  
Bangkok, Thailand  
December 1989

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## FOREWORD

The Mae Chaem Watershed Development Project was a major effort aimed at developing a "model" for sustainable use of watershed areas in Northern Thailand through experiences gained in the integrated area development of the remote, politically sensitive Mae Chaem District. The Project Completion report was written by the project's Training and Administrative Coordinator who spent almost three years working with the project staff and its beneficiaries. The report is an accurate depiction of the origins, the administrative modifications, the achievements and lessons learned from the nine year effort. The Mae Chaem project has had a significant impact upon issues related to development of hilltribe areas, land tenure, and agricultural extension technologies for highland dwellers. The project pioneered the use of "inter-face teams", (non-governmental community development workers assigned to the remote villages of the project area), decentralized administration, and land titling for hilltribes. While the project was completely successful in achieving the ambitious quantifiable targets established, it also had significant effect upon the quality of life of the area residents. The Mae Chaem project must also be judged by the relative degree of success in giving the residents of Mae Chaem, especially the hilltribe minorities, a greater ability to identify and resolve their own problems. Knowledgeable observers feel that the Mae Chaem project indeed had made considerable, if mixed, success in transferring this sense of identity and self-reliance to the residents.

The U.S. Agency for International Development would like to take this final opportunity to thank the agencies and representatives of the Royal Thai Government for their unstinting support of the Mae Chaem project, all project staff associated with this project, and the residents of the Mae Chaem District for their cooperation, understanding, and, above all patience, in the implementation of the Mae Chaem Watershed Development project.

Bangkok, Thailand  
December 3, 1989

## EXECUTIVE SUMMARY

The Mae Chaem Watershed Development Project was a nine-year (1980-1989) effort to ". . . establish a self-sustaining upward trend in real income and access to social services for the rural households of the Mae Chaem watershed with emphasis on the landless poor, while reversing the deterioration in environmental quality . . ." jointly funded by the Thai and U.S. governments. The project covered 5 of 6 tambons in the second largest district in the country (3,750 sq.km.) and a population of 43,000 ethnic hill tribe (55%) and northern Thai (45%) residents.

Through coordinated inter-agency activities, the Mae Chaem Project achieved both its main purpose and the following important individual targets:

- o Self-sufficiency in rice production (as of 1984/85)
- o Issuance of Land Use Certificates (goal of 4,000 exceeded by 172 in 1987)
- o Road construction/rehabilitation (goal of 159 km. exceeded by 65 km. in 1989)
- o Bench terrace construction (goal of 15,600 rai exceeded by 232 rai in 1987)
- o Development of water resources (goal of 102 met in 1989)
- o Model for watershed development (achieved in 1989, but not yet well documented)

During the course of the project, several innovations proved to have a very positive impact on the development of creative approaches to tough problems:

- o Decentralization of Administration from national to provincial and district levels resulted in much more timely and appropriate responses to field requirements.
- o Interface Teams were invaluable in providing for communications among villagers, project staff, and government officials.
- o Land Use Certificates guaranteed the rights of villagers to live and work in the watershed and the willingness to participate in project activities and assume continuing responsibilities.
- o Subsistence in rice production vs. increased cash crops conformed exactly to the immediate needs of the highland farmers and provided the foundation for long term stability.

- o Local drug detoxification (which was not originally planned) proved quite successful in reducing a significant barrier to project progress and individual development.

Nevertheless, the project encountered a number of traditional constraints which exerted a negative effect on operational efficiency: (i) Slow and restrictive financial procedures; (ii) Slow, ill-defined and inflexible decision-making processes; (iii) Incomplete inter-agency coordination; and (iv) Difficulty in conceptualizing and implementing "people's participation".

In the final analysis, the Mae Chaem Watershed Development Project was successful, having achieved its overall purpose as well as each of its major targets. There are no firm and detailed plans for continuing development in Mae Chaem District. Local communities in the watershed do not yet possess sufficient understanding and self-development skills to ensure long term sustainability and consolidation of project gains. Each of the above problems are correctable, but require a strong commitment on the part of the Thai Government and, perhaps, a small amount of external donor assistance.

During the nine year course of the Mae Chaem Project, a variety of lessons were learned, some well, some not so well: (i) Coordination and communication are crucial; (ii) Preparation of the beneficiaries should be first priority. Individuals (not agencies, not systems) are the key administrative mechanisms; decentralization breeds sustainability; and (iii) Continuous and creative documentation is essential.

## REVIEWING MAE CHAEM

### The Past, Present, & Future of the Mae Chaem Watershed Development Project

#### I. Project Origin

In the mid-1970's, when both the Royal Thai Government and international donor agencies were convinced that crop substitution was the most efficacious and probably the only way to ultimately eliminate opium poppy cultivation, it was proposed by the Office of the Narcotics Control Board (ONCB) that the United States contribute to this theme. In this interest, USAID would provide assistance to the Thai government in implementing an integrated area development project with the purpose of limiting or entirely eradicating the cultivation of opium poppy in the Mae Chaem watershed. This U.S. supported intervention would be called the Highland Agricultural Development Project and be coordinated by ONCB.

Shortly thereafter, controversy arose as to the long term effectiveness of a project so strongly focussed on one element (albeit an important one) of the total context of a very complex problem. It was questioned whether such a heavy emphasis on the one aspect of getting the farmers to switch from the production of opium to the production of other crops would be sufficient to alter the other factors favoring continued poppy cultivation (e.g. credit, marketing, the function of opium as a medicine & cultural component, the lack of social services in the hill areas). It was argued that the temporary and probably artificial (because of extensive RTG and foreign donor support) replacement of opium poppy with other crops may not be sustainable in the long run.

In addition, it was later discovered that although Mae Chaem District did produce opium poppy, the fields were not as extensive as originally thought. Thus, a large infusion of financial assistance aimed at eradicating a not-so-large crop may not be the wisest course.

#### Evolution of thought

As a result, the entire proposed intervention was rethought and the Mae Chaem Watershed Development Project (MCWDP) was formulated as a more viable alternative. This project would involve a more balanced approach to a multi-faceted development of components considered basic to addressing the deeper constraints preventing a qualitative change in the situation. These components would include the establishment of infrastructure, improvement of administrative procedures, expansion of legal land rights, provision of social services, and development of local human resources in a participatory manner.

The selection of a major implementing agency opened the door to further controversy. Which agency was in the best position to implement such a large scale effort? Which had the necessary authority? Which would be able to

coordinate efforts on many fronts? And which would assume the burden of the work? In the end, it was decided that with the heavy agricultural emphasis and principal roles of several agricultural departments, the Office of the Permanent-Secretary of the Ministry of Agriculture & Cooperatives should be the implementing agency rather than the Office of the Narcotics Control Board.

### From Thought to Action

On 29 August 1980, the Royal Thai and United States Governments signed the Project Agreement (ProAg) signaling the beginning of the Mae Chaem Watershed Development Project. (See map on the following page)

However, since the implementing agency required a period of time to meet the conditions precedent and gear up for implementation, work on the project did not actually begin until July of 1981.

## II. Original Agreements

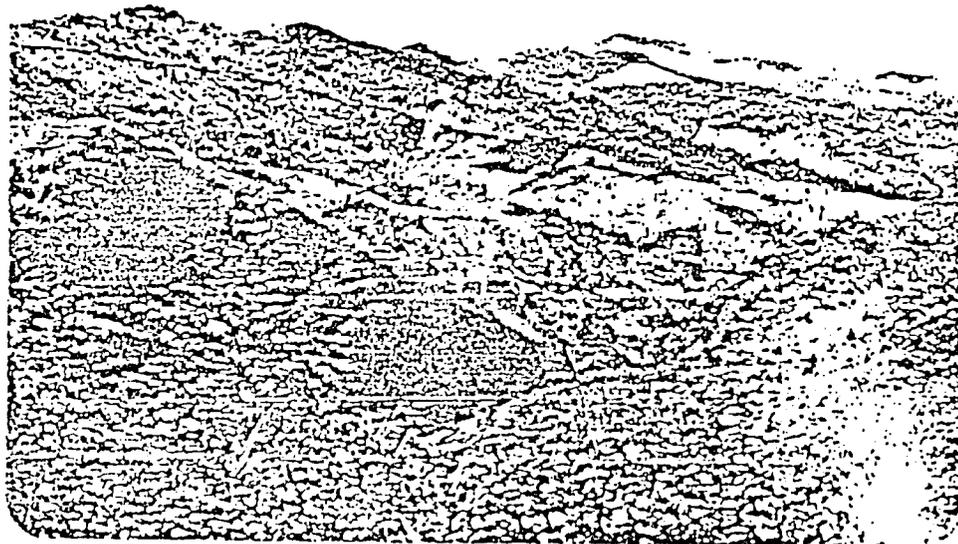
### As Stated in the Project Agreement & Project Paper

In the Project Description (Annex 1) of the Project Agreement, the project purpose and objective are stated as follows:

"The purpose of the project is to establish a self-sustaining upward trend in real income and access to social services for the rural households of the Mae Chaem watershed with emphasis on the landless poor, while reversing the deterioration in environmental quality within the watershed. Specifically, the Project seeks to attain, by or before its completion: self-sufficiency in rice production in Mae Chaem; increased real average income without resort to illicit drug production; higher quality of life standards for all groups living in the watershed; improved environmental conditions; increased capacity for local community planning and problem-solving; and a working rural development model capable of being extended to other areas and sustainable within the project area."

This would be achieved through a number of activities which themselves would be considered targets, including:

- rehabilitation and construction of major access roads as well as village feeder roads
- construction of water resources (e.g. weirs, canals, flumes)
- construction of bench terraces in upland areas
- experimentation, demonstration, and introduction of new technologies, seed varieties, etc.
- provision of legal land tenure documents



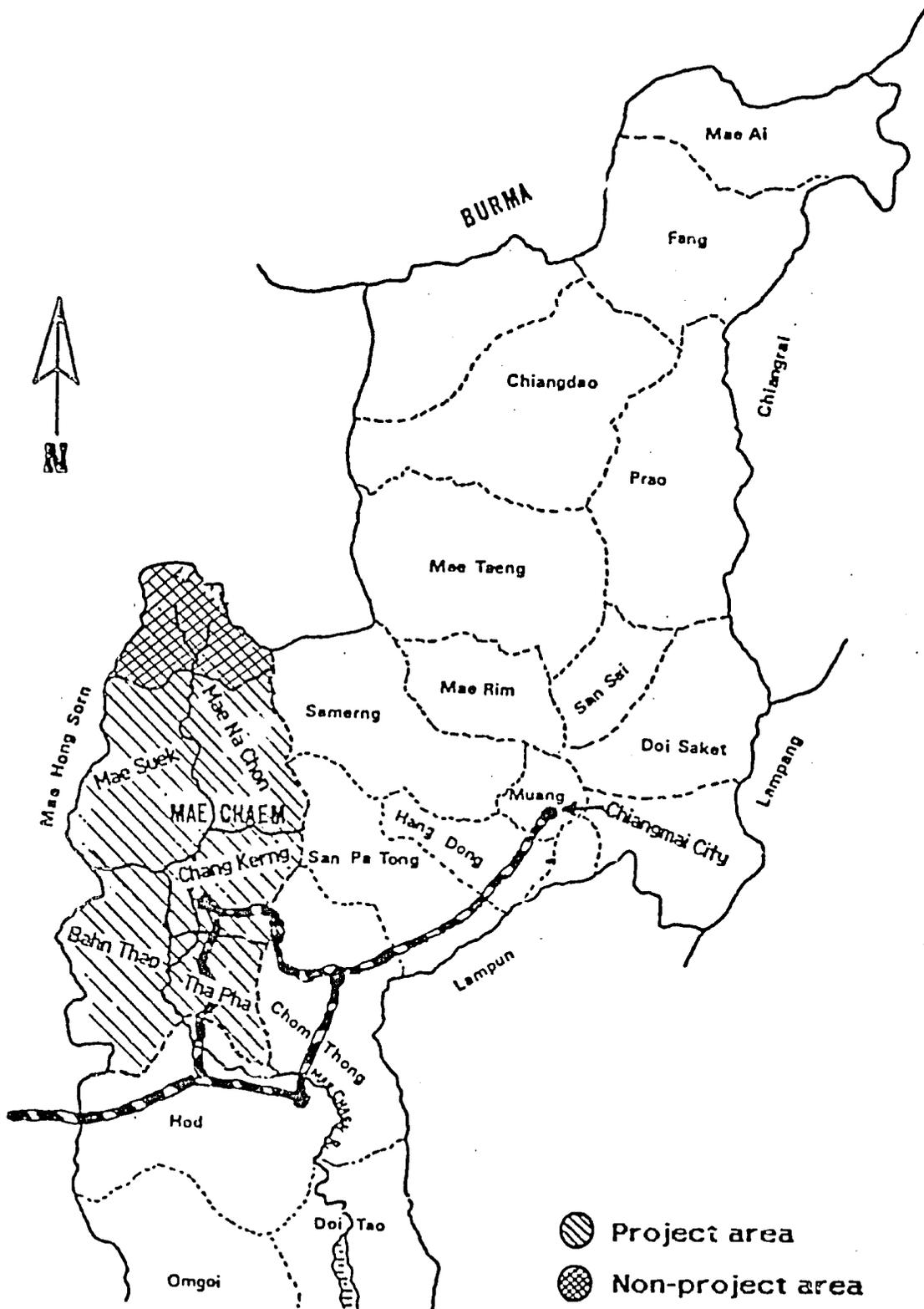
The vast majority of the Mae Chaem watershed is mountainous and remote and has been subjected to considerable deforestation over decades.



Over half of the population is tribal and lives in small villages or hamlets scattered throughout the uplands and highlands.

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# Map of Mae Chaem District, Chiangmai



- extensive agricultural extension services
- community and social development services and assistance
- decentralized administration of project operations

(See Table for Basic Data on the Project Area)

#### Goals, Objectives and the Need for Clarity

In any project there are goals. Then there are goals. Goals are expressions of what one thinks would be major beneficial accomplishments. They are founded on past experiences and, hopefully, up-to-date survey data. But they are still guesses. A principal problem with goals is that they must be both definite and flexible at the same time. Donors want to know what will be accomplished with their money. Implementors want to adjust to changing circumstances and experiences along the way.

Human nature and the nature of the governing bureaucracy as well is to perform those functions which are most clear, those with which one is most comfortable. Thus, the pursuit of quantitative goals (kilometers of roads built, number of terraces constructed). In this way, you can always explain to those in command exactly what you've done.

In the case of the Mae Chaem Watershed Development Project, the relative ease of setting and meeting and the difficulty of defining and measuring qualitative targets plus the fact that it was a Ministry of Agriculture & Cooperatives project from the beginning, led to a very strong focus on quantifiable agricultural and material goals with a lesser degree of oversight with respect to human resources and social/community development goals.

#### Cooperative Funding

The total cost of the 7 year project in terms of funding was originally set at \$21,000,000, with USAID providing a grant of \$10,000,000 and the RTG providing \$11,000,000 (in both real budget and costs-in-kind). USAID assistance would be used to help finance most components of the project, including the purchase of commodities and vehicles, the provision of technical assistance, major road and building construction, and temporary-hire project staff. RTG contributions would include facilities, road construction, permanent government staff, operating expenses, credit, and some administrative costs.

#### Administration and Authority

One of the early difficult decisions in this project was determining who would be responsible for running day-to-day project operations. One school of thought was that, in order to ensure effective coordination and compliance with national policy, the project should be directly managed by the Office of the Permanent-Secretary of MOAC. Another school of thought was that, in order

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# Basic Data on the Project Area

Mae Chaem Watershed Development Project Mae Chaem District

## Geography

Total area of Mae Chaem District = 3,750 square kilometers

Total project area = 3,196 square kilometers [1,997,500 rai]

Mountains & forests comprise 94.17%

Agricultural lands comprise 3.03%

## Administration

Number of tambons in Mae Chaem District = 6

Number of tambons in the project = 5 [Chang Kerng, Tha Pha, Mae Suek, Mae Na Chon, and Bahn Thap]

Number of villages in the District:

- Official = 66

- Unofficial = 158

Number of villages in the project = 205

## Population in the project area

	Thai	Karen	Hmong	Lua	Total
1981	17,354	13,388	2,215	1,082	34,039
1988	19,439	19,705	2,723	1,288	43,155

to ensure timely and effective response to local conditions and proximity to project beneficiaries, the project should be managed at a lower level, probably provincial.

After long discussion, it was decided that the Projects Division of the Office of the P-S, MOAC, would manage the project, with a Field Manager in Chiang Mai reporting directly to that office.

### III. Early Implementation

#### Meeting the Conditions Precedent

As stated in the Project Agreement (under Section 4.2), one of the primary Conditions Precedent for the disbursement of USAID funds was:

"(d) Evidence that the Grantee (MOAC) has taken appropriate steps to establish principles, beneficiary-selection criteria, procedures, schedules, and authorities governing (i) allocation of Grantee-owned or controlled land and ii) issuance of land use permits to indigenous farmers in the Project area for agricultural purposes...."

Unfortunately, this one Condition Precedent was not in accordance with existing Thai government regulations. Nor did it conform to current policy, with respect to residence, particularly for hill tribes, within national forest reserves or Class 1 watershed areas. As a result, the project experienced frustrating delays for a period of almost 2 years while mutual agreement was sought on the issuance of Land Use Certificates in the project area.

During the same period, the project was experiencing additional delays in implementing operations at the provincial and field levels. The reason for this was the difficulty in channeling decisions, paperwork, and actions through the multi-leveled bureaucracy of a Ministry down to the provincial and, ultimately, the project level. Delays were persistent and postponed or aborted activities began to accumulate. Long discussions among representatives of USAID, MOAC, and DTEC ensued on how to best rectify the situation, with MOAC preferring to retain direct control of project implementation at the Office of the Permanent-Secretary and USAID advocating decentralization of administrative authority for operations to the provincial level, including appointment of the Governor of Chiang Mai as Project Director.

USAID saw the two issues of issuance of Land Use Certificates and decentralization of administration as crucial to the future success of the project. If these essential conditions could not be met, it might be best not to pursue project implementation any further. Because of the strength of its conviction, USAID halted project funding (except for Project Operations Unit staff) during the last half of FY 1982. Given this new impetus, MOAC altered its position and made a formal request to the Cabinet for review of these two issues.

The land use permit issue was resolved on 11 May 1982 when the Cabinet decided to authorize the issuance of Land Use Certificates to northern Thai and tribal residents of the Mae Chaem Project area (only). The matter concerning decentralization was resolved on 23 September 1982 (also pursuant to the Cabinet decision) when MOAC appointed the Chiang Mai Governor as Project Director:

". . . the Governor of Chiang Mai Province is the Director of the Mae Chaem Watershed Development Project and responsible for project implementation in his position as Project Director, with authority for the disbursement of grant and counterpart funds necessary for operations in the Mae Chaem watershed . . ."

Appointment of the Chiang Mai Governor as Project Director served to decentralize operational authority to a level consistent with (1) responding to field level requirements in a timely and knowledgeable manner, and (2) providing sufficient authority to coordinate the actions of the several participating agencies in the interest of a common goal. Granting of official land use permission gave beneficiaries a more vested interest in the project and the donor agency a firmer guarantee of official interest in exploring new approaches to watershed management.

This, of course, is not a 100% solution, because higher level agencies that lose some portion of their authority and close control of project finances may see such a system as negatively impacting on their ability to implement activities conforming to their own policies and requirements. As a result, it is not uncommon for persons who are somewhat distanced from the wider administrative scope and the needs and constraints of the local residents to view this as a conflict between the administrative authorities of different agencies.

In reality, this is not the case. The intent of decentralization is to delegate authority to a level sufficiently close to the target population that oversight of the effects of project activities is both comprehensive and clear and beneficiary data is readily at hand. Agencies at higher levels do not have the time or manpower necessary to provide for close and continuing follow-up coupled with frequent decision-making on specifics. Their valuable time is more appropriately spent on national policy decisions and coordination.

#### Divergent Opinions and the Search for Common Ground

Such seeming divergence of opinion, as noted above, mainly results from the fact that different agencies are responsible to different masters and must always take this into account in the performance of their duties. Thus, duties are interpreted in light of higher level authority and will not always be consistent from agency to agency.

This can be seen in the case of the Mae Chaem Project, where the four major agencies (P-S, NOAC, DTEC, Chiang Mai Province, and USAID) were each, in turn, responsible to a different higher authority with differing policies and regulations. For example,

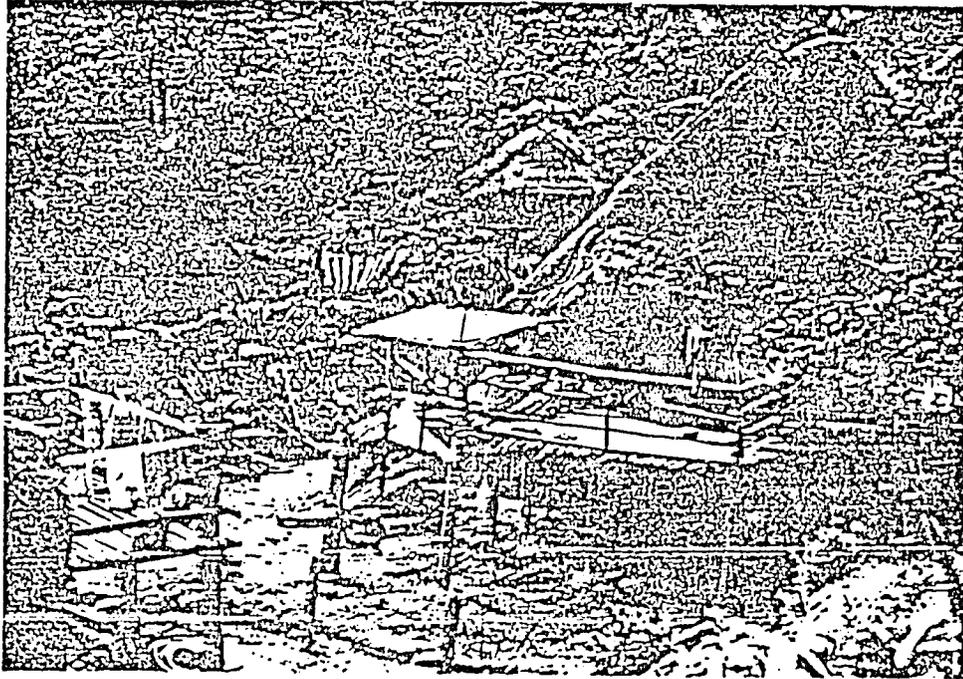
- The Office of the Permanent-Secretary is responsible to the Ministry of Agriculture & Cooperatives and must ensure that its actions conform to Ministry policy and directives, which are chiefly concerned with agricultural and environmental matters.
- DTEC is responsible to the Office of the Prime Minister and must ensure that there are no discrepancies in financial matters and that agreements and plans for implementation are adhered to.
- Chiang Mai Province, although representing the Royal Thai Government, still reports to the Ministry of Interior, which holds its officials responsible for the overall administration of the province and its peoples, as well as coordination of the efforts of a great number of agencies at the provincial level (many of which it has no direct control over).
- USAID is responsible to Washington, D.C., which must reduce its vast numbers of projects to various common denominators in order to be able to grasp the total development picture and make rational decisions on an international level.

In theory, this fairly clear division of responsibilities among the principle regulating agencies is a logical approach to dealing with the manageable implementation of activities funded to the extent of 525 million Baht as in the case of the Mae Chaem Watershed Development Project. However, when (1) goals are not specific and, thus, are subject to individual interpretation, (2) administrative regulations and procedures differ significantly, and (3) limits of authority are seen to overlap and conflict, it is highly unlikely that operations will be smooth. It is even more unlikely that the target population will receive the close and continuing attention it deserves.

This situation is highlighted by the reports of the two evaluations conducted by the Development Alternatives, Inc. team in 1983 and 1987:

". . . . each line agency has its own different hierarchical structure, making unified management difficult."

"Although the project had already been considerably decentralized, the 1983 evaluation team saw the need for even greater decentralization to the provincial level."



Living conditions for the hill tribes in Mae Chaem are at subsistence level, with the major crop being low yielding field rice.



The Karen, the largest ethnic group in Mae Chaem, have strong ties to the land and are very conservation minded.

Since the first official year of the project was taken up with basic administrative agreements, restructuring of policies, and key organizational decisions, actual work in the project area did not begin until July of 1981. These initial activities included:

- Interface Team assignments to villages and commencement of introductory duties, such as studying the community and its people, collecting baseline data, and explaining the functions of the Mae Chaem Watershed Development Project to the villagers.
- Royal Forestry Department reforestation of selected areas.
- Department of Land Development surveying and construction of bench terraces.
- Department of Agricultural Extension provision of basic extension services, especially those directed at improving future rice yields.

#### IV. Participating Agencies and Their Roles

##### Department of Agriculture

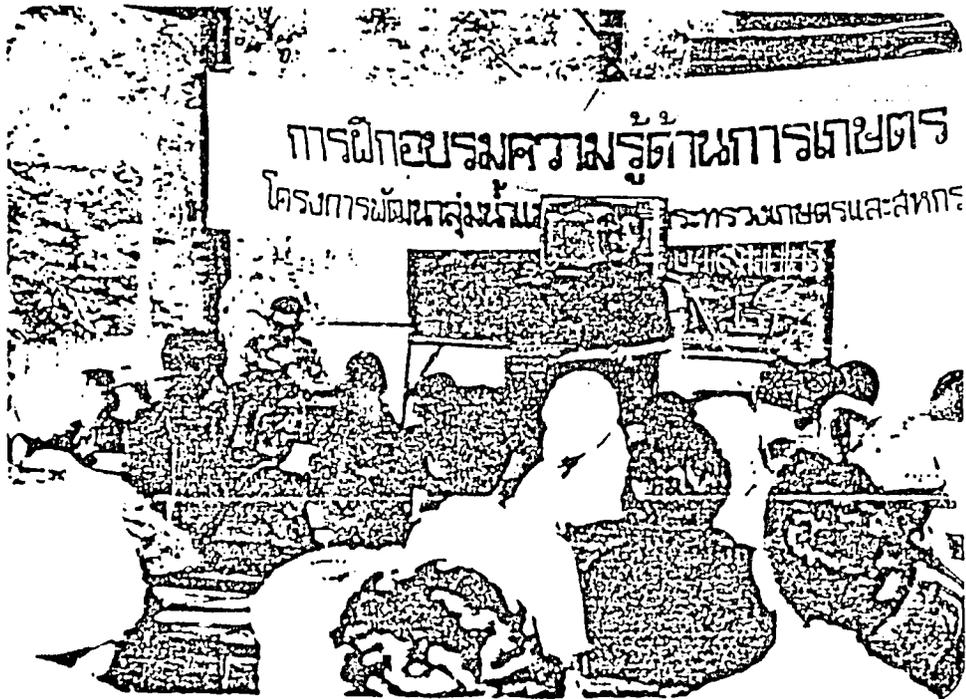
The DOA is traditionally responsible for experimentation with new crops and technologies and the demonstration of techniques which aid in the transfer of skills in this regard. In the Mae Chaem Project, the DOA was charged with the development of rice and other crop varieties and agricultural methodologies applicable to the highland terrain in Mae Chaem. Grant funds were used to assist in the purchase of vehicles and equipment, construction of training and other facilities, and the employment of supplemental manpower.

##### Department of Agricultural Extension

The DOAE is the chief agency engaged in agricultural extension activities aimed at transfer of technology to the farmer. In theory, DOAE takes new technologies and crop varieties developed by DOA and, through extension activities, assists farmers to become proficient in their use. In practice, this is not always the case, because of interagency difficulties in communication. The role of DOAE in this project was to conduct extension activities, training, and provide assistance to Mae Chaem farmers in improving their rice and other crop yields and management of land, water, and other resources. Grant funds were used in the construction of Tambon Agricultural Extension Centers and other facilities, the procurement of vehicle, commodities and seeds, conduct of training, and employment of additional manpower.

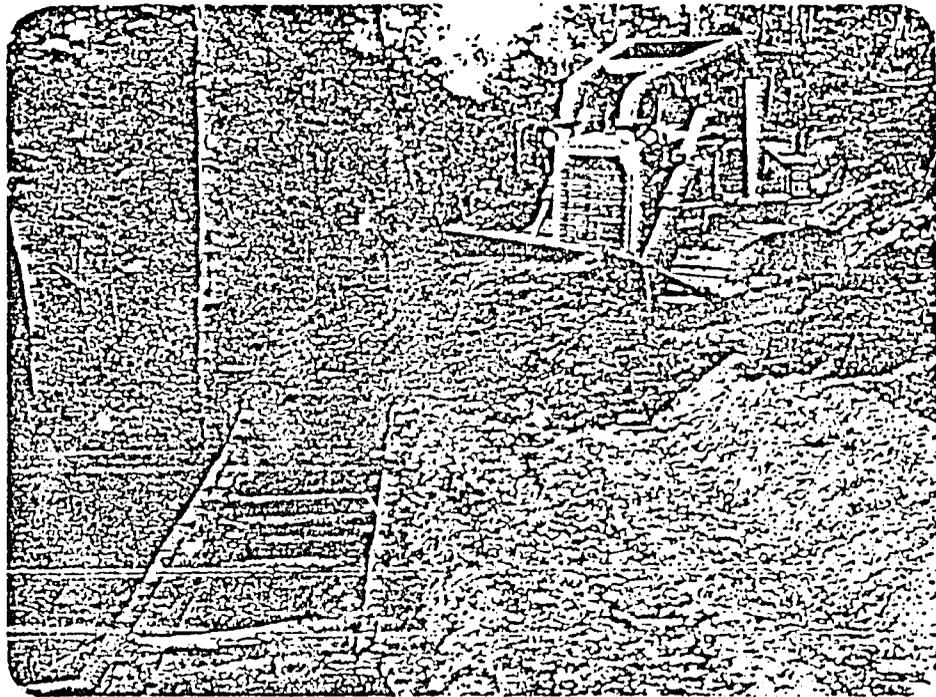


The Dept. of Agriculture conducts research on new technologies and crop varieties, such as this wheat plot.

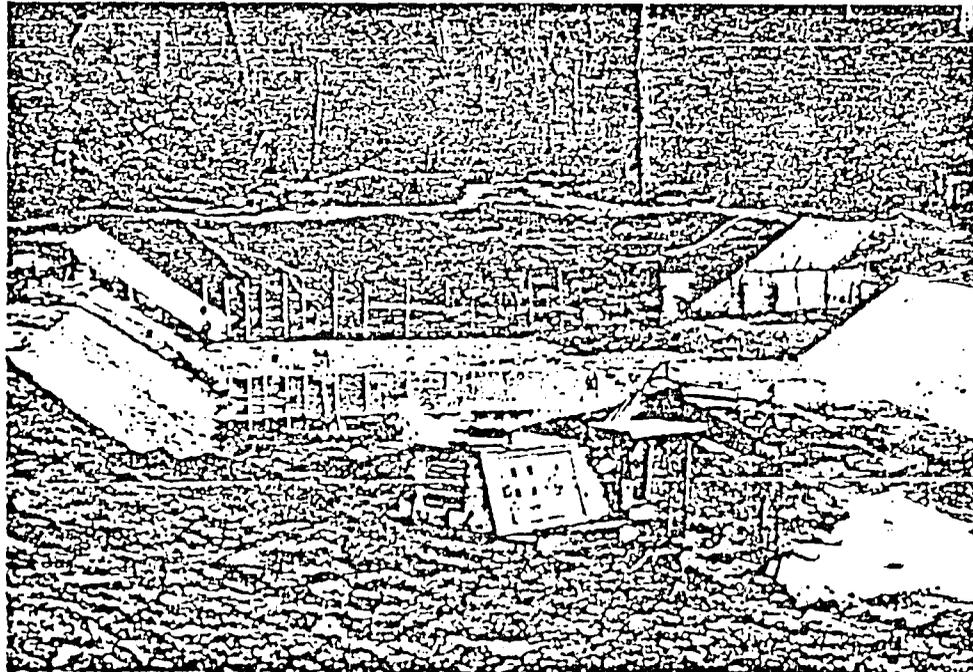


The Dept. of Agricultural Extension provides training, seed, and various extension services to both lowland and highland farmers.

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The Royal Forestry Department is responsible for road rehabilitation & construction, forest fire control, community woodlots, and the issuance of Land Use Certificates.



The Dept. of Land Development constructs water resources (weirs, flumes, canals) and bench terraces in the uplands.

### Royal Forestry Department

The conventional responsibility of RFD is the control, protection, and enhancement of the forests and the environment. In this case, the Mae Chaem watershed. Their specific responsibilities in this project included road rehabilitation and construction, issuance of Land Use Certificates, forest fire control, hydrological and climatic research, and the establishment of community woodlots and pasture lands. Grant funds were used for the purchase of vehicles and equipment, costs incurred in the survey and issuance of Land Use Certificates, road rehabilitation and construction, research, and employment of supplementary staff.

### Department of Land Development

Traditionally, DLD is responsible for improvement of the land and its use. In the Mae Chaem Project, DLD played several roles, including: assistance in surveying land, development of various types of water resources (e.g. flumes, weirs, canals), construction of bench terraces in the uplands, and training of farmers in soil improvement and land use techniques. Grant funds were used in the procurement of vehicles and equipment, land terracing, survey expenses, training costs, and the employment of additional labor.

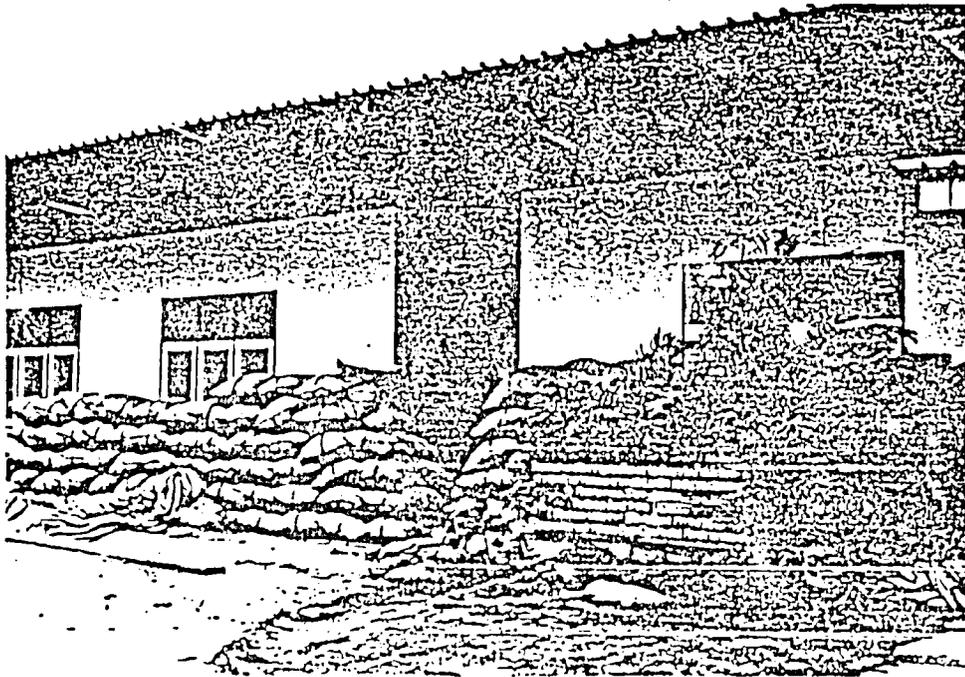
### Project Operations Unit

The POU was not an existing agency but an office established for the administration, coordination, and conduct of the project within Mae Chaem District. Major POU duties included: project administration and accompanying paperwork, finance (at the project level), personnel management, and the conduct of Interface Team activities. Also, since no agencies within MOAC had responsibility for social/community development programs, the POU also assumed this function, overseeing education, health, and village leadership and development activities conducted by agencies of the Ministries of Public Health and Education. Grant funds were used for construction of the project office complex, employment of staff, project administration and coordination, conduct of IF Team and social/community development activities, supplies and materials, and the purchase of vehicles and commodities.

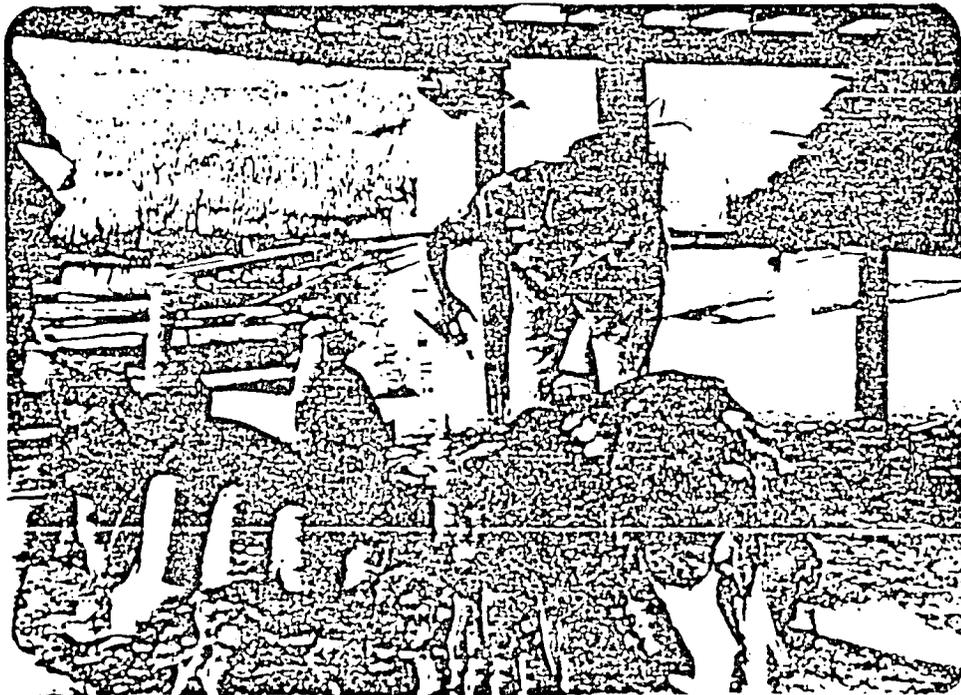
As a result of a proposal accepted by the Central Project Administration Committee in August of 1984, these original core agencies were joined by several others in order to make the Mae Chaem effort more comprehensive and address the full range of beneficiary needs in the watershed. These newer agencies included:

### Department of Cooperatives Promotion (began participation in 1984)

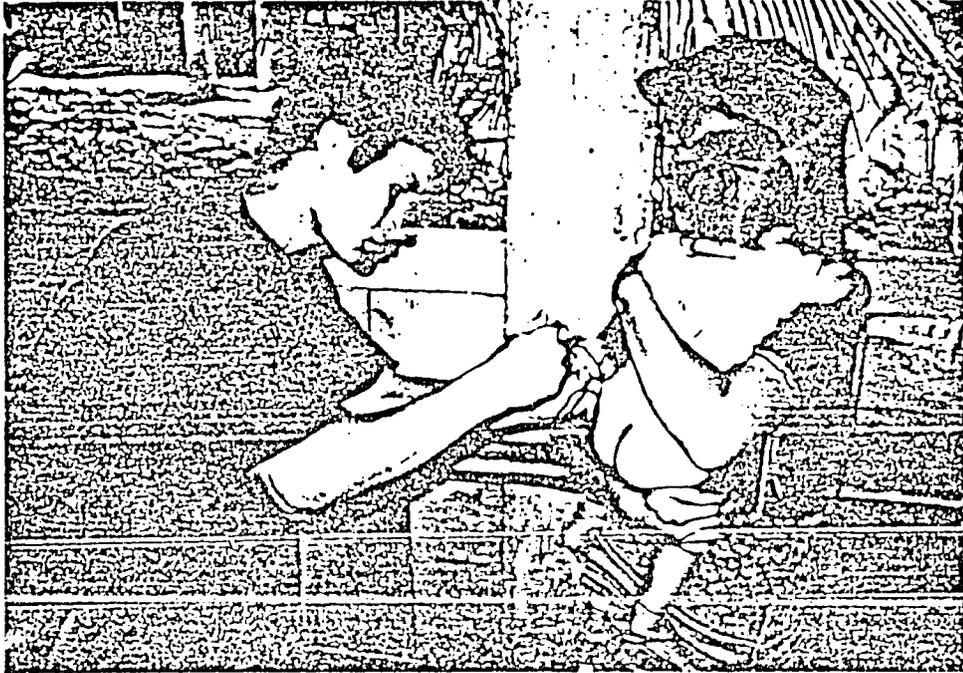
The chief responsibility of DOCP is to provide rural farmers with credit and marketing assistance which will allow them to improve their agricultural practices and economic status. Here, this consisted of providing credit and supplies, assisting in produce marketing, and training of community cooperative groups. Grant funds helped to construct a cooperative office and storage facilities and tambon level storage facilities, purchase a vehicle and some equipment, and train farmer groups.



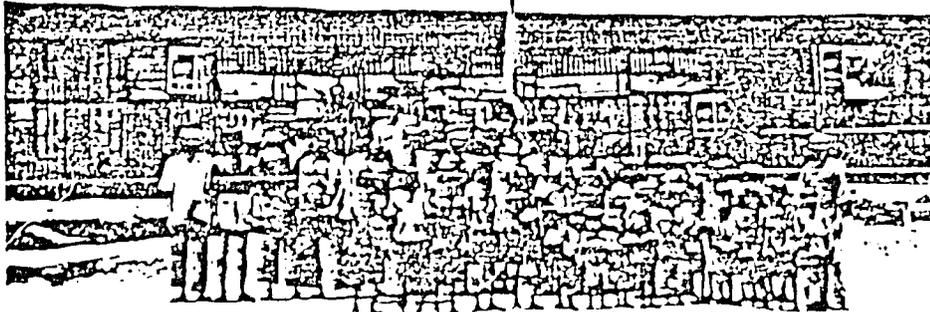
The Mae Chaem Agricultural Cooperative provides credit and marketing services as well as training of new cooperative groups.



The Dept. of Livestock is responsible for training and services regarding animal care, disease prevention, and improvement of breeds.



The Ministry of Public Health already provides basic health services, but assists the project with drug detoxification and family planning.



The Dept. of Teacher Education assists in the training of Interface Teams and operates the social development component of the project [education, community leadership & development].

Department of Livestock (1985)

DOL is charged with responsibility for assisting farmers in the improvement of livestock breeds, prevention and treatment of disease, and the overall care of domestic animals. The specific role of DOL in this project was to aid in the treatment and prevention of disease and improvement of animal breeds through both farmer training and the provision of services. Grant funds were employed to support these activities.

Ministry of Public Health (1986)

MOPH is responsible for the entire range of activities and programs centered around human health, whether through the provision of services or education. However, since MOPH had initiated the Community Health Worker Project (providing improved health delivery services) almost concurrent with the Mae Chaem Project, its role in this project covered only two areas: family planning services and drug (opium) addict detoxification and rehabilitation, both through the Mae Chaem District Hospital. Grant funds were used chiefly for small commodities, supplies, operational costs, and additional manpower.

Department of Teacher Education (began participation in 1986)

While DTEC is chiefly responsible for the preparation of teachers, it also has two secondary areas of responsibility: research and community service. In the Mae Chaem Project, DTEC performed two major tasks: training of Interface Teams and overall responsibility for the social/community development component, including village leadership training, non-formal education, vocational education, and community activities. Grant funds were employed to fund the above programs as well as DTEC staff expenses.

CARE/Thailand (began participation in 1984)

The Thailand Office of CARE International conducts village leadership, income generation, agriculture, and nutrition activities in close cooperation with the Mae Chaem Watershed Development Project. These activities are located exclusively in the poorest tribal villages. No project grant funds are employed, but the Mae Chaem Project has provided support throughout as the individual objectives are mutually supportive.

**V. Inventive Approaches Introduced by the Project**

Both prior to and during the course of the project, many new approaches to watershed development were conceived and tried out. Several of these demand special attention not only because of their originality but because of their substantial contribution to the success of the project:

### Interface Teams

Communications and relations between development agencies/staff and rural villages/villagers frequently do not facilitate project implementation to the extent necessary to permit attitude and behavior change as expected under planned time frames. The reasons for this are several: ethnic as well as "conceptual" language differences; somewhat rigid procedural requirements on the part of the bureaucracy; dissimilar lifestyles and social values; and overall deficiency of mutual understanding. As a result of this rather chronic communication difficulty, the Mae Chaem Watershed Development Project introduced Interface Teams. These teams, composed of 2-3 young men and women meeting basic education and performance criteria, are stationed in "clusters of villages" in the project area and serve to provide a vital link between government and project personnel and the local communities. Their duties consisted of: collecting data on village conditions and needs; reinforcing project-community communications; initiating village level development activities; and assisting the community to build its own more self-reliant development mechanisms.

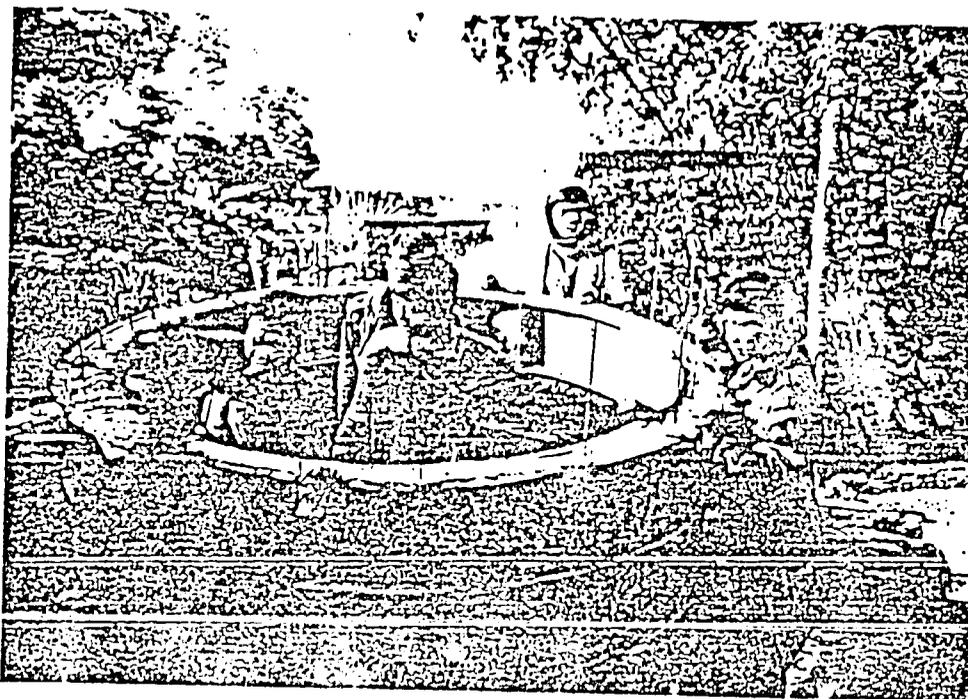
### Issuance of Land Use Certificates

Government policy at the time the Mae Chaem Project began (and current policy as well) was opposed to legalizing the residence of farmers (particularly hill tribes) in Class 1A forests and watersheds in order to prevent further (claimed) destruction of the forests. The project's contention was quite diverse - only by providing official land tenure rights would the local population (especially the hill tribes) have the necessary vested interest in the land to motivate them to cooperate fully with project development efforts. In this regard, the project sought to issue Land Use Certificates providing the residents with these rights (not transferable except to their offspring and also requiring the holder to manage the land in prescribed ways).

### Self-sufficiency in Rice Production (as opposed to cash crops)

At a time when nearly all major integrated area development projects involving the hill tribes in Thailand (e.g. Thai-German Highland Development Programme, Highland Agricultural Management & Marketing Project, Highland Agriculture & Social Development Project) were headed in the direction of strong promotion of cash crops (generally as a substitute for opium), the Mae Chaem Watershed Development Project assumed a more pragmatic stance - improved rice production. Since the majority of highland communities suffer an annual rice deficit but feel more comfortable with rice cultivation, it was reasoned that rather than going the circuitous route of cash crops (in order to get money to buy rice to eat) efforts would be better spent on improving rice production and yields. Cash crops could come later as they require substantial assistance in the form of credit, marketing, technology, and transportation, not to mention their social impact.

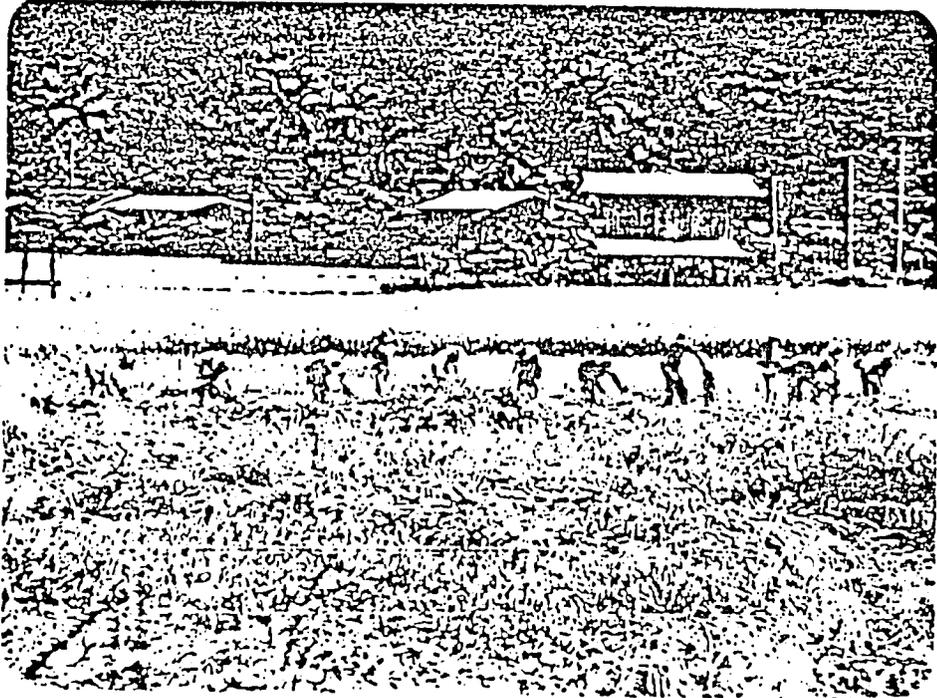
A key factor in attaining self-sufficiency was the Accelerated Impact Program (AIP) which ran from 1985 to 1987 and greatly reinforced efforts to introduce new technology, rice seed, and compost plus other fertilizers.



Interface Teams provide the critical link between villagers and project and government staff in order to ensure understanding & participation



The Mae Chaem Project was the first (and so far the only) project to succeed in granting legal land rights in a watershed on a large scale.



The major agricultural goal of the project was to increase rice production to the point of self-sufficiency.



A later innovation was the provision of drug [opium] detoxification services to hill tribe addicts within the district.

### Decentralization of Administration

Characteristically, rural development projects are administered for the most part by agencies at a national level, either Ministries or Departments. Although this gives the project a certain authority and insurance that subordinate units within the parent organization will comply with project objectives, it distances decision-making and implementation from the field. Because of this, staff are frequently unable to respond to changing conditions and the details of requirements at a local level in a timely manner. Therefore, the Mae Chaem Project instituted a modified administrative organization whereby MOAC retained overall project responsibility and policy-making authority, while the Governor of Chiang Mai Province was appointed Project Director. This was further operationalized with the appointment of the Governor's (self-selected) Deputy Project Director for Administration, and a Deputy Director for Technical Affairs. In addition, the Provincial Project Administration Committee and the District Advisory Committee were established to provide for firmer coordination. Thus, the project possessed both key persons and mechanisms to better ensure fulfillment of the project's purpose:

" . . . a self-sustaining upward trend in real income and access to social services for the rural households in the Mae Chaem watershed . . ."

And later, in 1986, Local Drug Addict Rehabilitation

Later on in the project, it became apparent that addiction to opium among a large percentage of the population (especially the hill tribes) was a definite obstacle to development in a sizeable number of communities. Attempts to remedy this situation by referring the identified addicts to the Northern Drug Addict Rehabilitation Center in Mae Rim District, Chiang Mai, were not successful because of the high retoxification rate upon their return. It was then determined that the tribal addict population could be best served by the establishment of a more localized and intense effort at detoxification and rehabilitation - and the Mae Chaem Drug Addict Rehabilitation Center was established. This Center, operated by the Mae Chaem District Hospital, offered not only treatment but the village level preparatory and follow-up activities critical to sustained success.

### VI. Traditional Approaches that Constrained the Project

While any new project may formulate new and more original ways for advancing its objectives, it will always have to deal with assorted entrenched attitudes, procedures, and regulations which conspire to limit the ability to be creative. Several of these traditional restrictions were of special concern here.

### Slow and Restrictive Financial Procedures

Let's admit it. It's not a simple task to manage the finances of a \$21,000,000 project, especially when one donor agency, one monitoring agency, and 9 implementing agencies are all involved in the allocation, disbursement, and reimbursement of funds. The result in this and other cases (even at much lower funding levels) is a rather restrictive financial system designed to ensure that all monies are properly spent and accounted for. What this means at the operations stage is long delays in the approval process, voluminous paperwork, and perpetual auditing difficulties. While it is possible to revise and adapt elements of the system on a problem-by-problem basis, it does not appear possible to revise the system itself, because: (1) each agency tends to defer to its own systems, which will contradict the systems of other agencies at least in some procedures; (2) the built-in "culpability factor" tends to make everyone involved extremely cautious and unwilling to perform actions out of the ordinary; and (3) the inadequate communications between agencies or even within agencies cultivates differing interpretations of identical matters.

This was also apparent to the Development Alternatives, Inc. evaluation team in 1987:

"The POU sees DTEC as obstructing progress by its long voucher audit process. The AID section chief at DTEC explained to the evaluation team that DTEC is being criticized although it is only following the required RTG system."

### Slow, Ill-defined and Inflexible Decision-making Processes

The nature of a bureaucracy is to firmly structure and compartmentalize the decision-making process so as to ensure both objective treatment and efficiency. In theory, this is very logical. It is also fairly practical in small organizations where the information flow is frequent and close. However, in large organizations and extensive operations, it is no longer possible to deal with the myriad details that come with abundant activities. Thus, blanket rules and procedures govern administrative as well as operational decisions and these are unable to handle the intricacies and personalities involved. The result is delays, misunderstanding, and an inability to respond quickly to individual situations. The outcome in the Mae Chaem Project was a very comprehensive and all-inclusive decision-making structure covering field to national levels which was unable to initiate a quick response to an important but urgent requirement for revision in the district (because of the administrative hierarchy and incomplete decentralization of authority).

This is further strengthened by the responses of IF team members in questionnaire evaluations of the project conducted in September and November of 1986:

In response to the question "What administrative problems have you found with the Project Operations Unit?", 70% answered "operational delays" and 13% answered "administrators are not broad minded".

In an open-ended item, 34% replied that "administrators are narrow minded and unjust" and 29% noted that "IF members have low morale because administrators don't care".

#### Incomplete Inter-Agency Coordination

Inter-agency coordination is a term that is widely discussed and often fundamental to the cooperative operational structure of a project. It is also a frequently unfulfilled assumption. In the normal context, there are just too many factors conspiring against it (e.g. budgeting procedures, credit for work done, territorial imperatives). Such was the case in this project. While the promise of USAID grant funds could get different agencies to meet together, make joint decisions, and work with each other on specific programs, it could not create a unity of thought and labor outside these bounds. As a result, the root differences in attitudes and actions that existed before the project continued to manifest themselves whenever definite steps were not taken in prevention.

In its second evaluation of the project in 1987, the Development Alternatives Inc. team wrote:

"Each year, USAID has funded a three-day planning session in which all the implementing agencies participate. This workshop does not provide an adequate forum for coordination."

Since 1983, the POU has had its own compound in Mae Chaem. The 1983 evaluation team saw this as an important need to bring the agencies and the POU closer together. However, the compound has not effectively served this purpose."

#### Difficulty in Dealing with People's Participation

"People's participation" is one of the key words of development in the last decade. Unfortunately, it is not a practicing concept which readily conforms to conventional implementation and financial plans, let alone higher level policies. It is time consuming and disruptive in an administrative sense. It adds additional steps at all planning and operations stages and requires substantially divergent strategies and tactics and impedes the achievement of targets as planned. The fact that the meaningful participation of the beneficiaries in determining their own future is the best guarantee of long term sustainability, however, does not appear to affect our unwillingness to seriously incorporate it.

The project made serious attempts to introduce bottom-up participation and planning, but it frequently turned out that once these lower level initiatives were channeled to the national level, they were: (1) significantly altered, (2) subjected to delays, and (3) disregarded.

## VII. Later Project Implementation

### Leaving Bangkok

When the decision was finally made to appoint the Governor of Chiang Mai as Project Director in 1982, it became possible to relocate the bulk of day-to-day project operations to Chiang Mai, with a central office at the Northern Agricultural Development Center (NADC) and a field office in Mae Chaem District. Although facilities were initially cramped and equipment insufficient, this move allowed the project and its staff to experience the needs of the watershed more directly, make more responsive decisions on implementation, and more closely and accurately follow-up on progress.

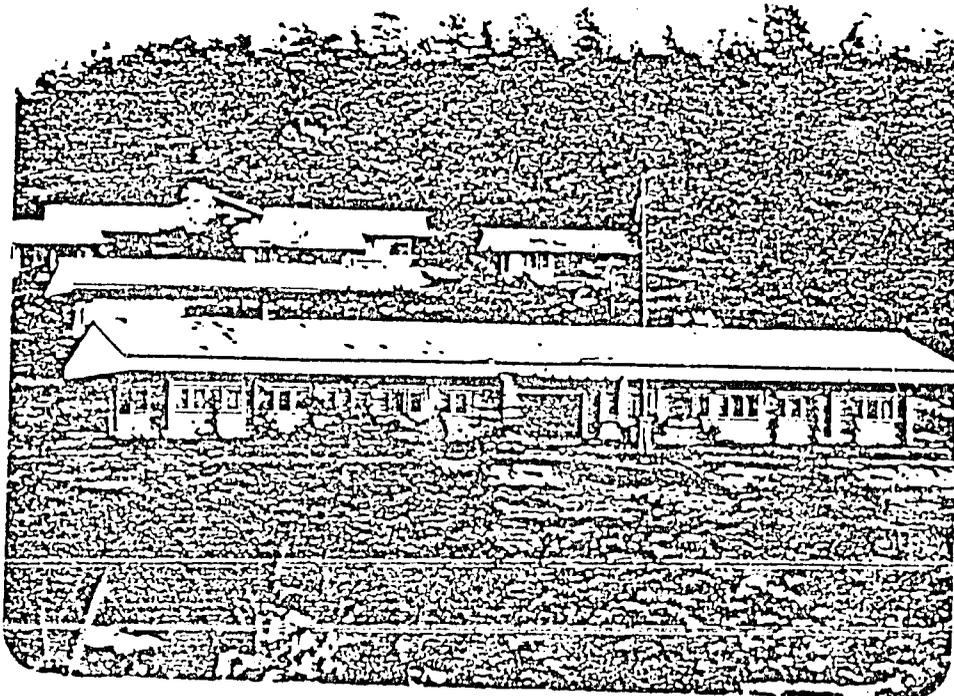
Nevertheless, for a period of at least one year, considerable difficulties regarding project finance and administration were encountered. The reason for this was the lack of clarity with which the decentralization was specified and, thus, the tendency to retain authority at the Ministry until it was shown that the project was not able to conduct its activities in an efficient manner without fully delegating authority for field operations.

Once the national-to-provincial decentralization was relatively complete, project activities were much more effectively and quickly implemented and progress improved markedly. Prior to the appointment of the Chiang Mai Governor as Project Director an interesting and key decision was made. Since the Governor was an extremely busy person, he requested that he be permitted to select and contract with an individual to act on his behalf in the position of Deputy Project Director for Administration. (The Director of the NADC was also appointed Deputy Project Director for Technical Affairs). Because of the Governor's wisdom in requesting this position and selection a superior individual (who had his complete trust), the project was able to improve its operating effectiveness remarkably.

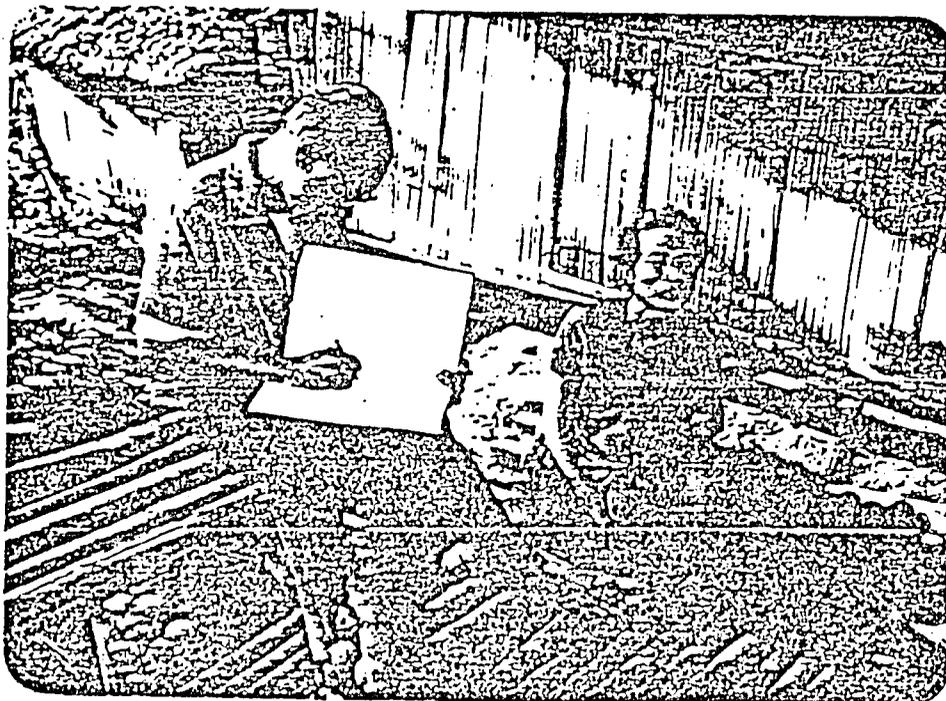
### Moving to Mae Chaem District

Eventually, in February 1984, the project completed construction of the Project Operations Unit office and housing complex in Mae Chaem District. This provided the physical basis for gradually relocating provincial operations (mainly from the Northern Agriculture Development Center) to the site of the project proper. Henceforth, the Project Operations Unit, including the Deputy Director for Administration and representatives of the participating agencies (RFD, DOA, DOAE, DLD and later DOL, DOCP, and DTE) would be resident on-site.

From this point on, project implementation gradually increased its effectiveness and efficiency, with an enhanced ability to resolve problems in the field and promote better relations and communication between project and RTG staff and residents of the district.



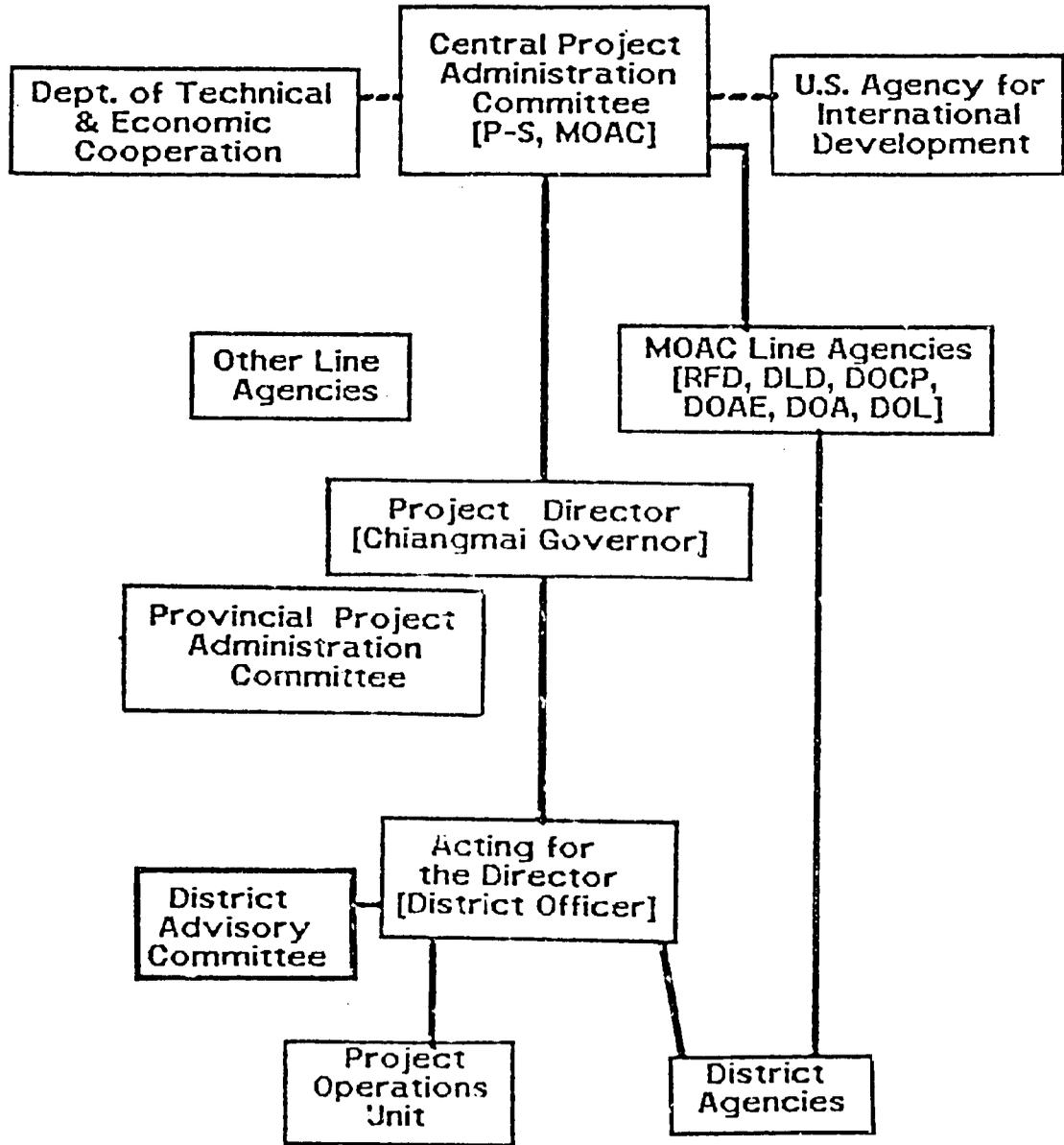
In 1984, the Project Operations Unit was settled in its new facilities in Mae Chaem District, improving the response to field conditions.



Administrative decentralization and appointment of the Deputy Director for Administration to his post in Mae Chaem District resulted in closer contact with project beneficiaries.

# Organization Chart

## Mae Chaem Watershed Development Project





New project directions in 1987 placed increased emphasis on tribal communities in the highlands.



A more serious effort was made to work directly with villagers in exploring methods for attaining more sustainable community development.

Unfortunately, the two chronic problems of tedious and slow administrative and financial procedures at higher levels continued to beset the project. Examples included: delayed receipt of periodic advancements of funds; delayed reimbursements of expenditures; misplaced and missing documents; disparities between information and regulations provided by different offices dealing with project finances and administration; long delays in approving changes in project financial and implementation plans; and long delays in replying to project inquiries (and, in some cases, no replies at all). This, of course, was in addition to the project's own internal organization problems.

Despite the increasing progress generated by decentralization, in the later stage of the project it became clear that although the hard targets of road construction, development of water resources, improved rice yields, etc. would be realized, the project would be hard pressed to accomplish expected improvements in social and community development within the time frame of 7 years. Furthermore, the preponderance of development activities had concentrated on the two most accessible tambons - Chang Kerng and Tha Pha - which were populated mostly by northern Thai. The remaining 3 tambons - Mae Suek, Mae Na Chon, and Bahn Tham - comprised large hill tribe populations and were more difficult to work with because of access, language, and cultural problems. Therefore, they had participated in project advances to a much smaller degree and two undesirable situations would face the project when it terminated in June 1987: (1) development outcomes would be lopsided, heavily favoring the Thai residents of the watershed, and (2) gains made by the project in its 7 year course would probably not be sustainable over the long term due to insufficient concurrent advances in social and community development.

What's more, the project would not be (at that time) in a position to collate, analyze, revise, and summarize its experiences and tested approaches to watershed development - a necessary foundation for concluding the "Mae Chaem model for watershed development". Therefore, while definite accomplishments were visible in the Mae Chaem watershed itself, there would be no documentation to guide adaptation of successful approaches and structures to other watersheds. And the 7 year struggle and learning could be easily lost to any future efforts.

#### A Significant Redirection

In 1987, the decision was made to extend the Mae Chaem Watershed Development Project for an extra 2 years, from 1 July 1987 to 30 June 1989, within the remaining budget in order to allow time to consolidate past gains and initiate or continue actions in several new directions. The objectives of this extension (as listed in the extension plan) were:

- (1) to focus efforts on the upland/highland communities (Mae Suek, Mae Na Chon, and Bahn Thap tambons) with majority tribal populations;

- (2) to reduce the scale of infrastructure development (to increase the feasibility of local maintenance);
- (3) to reorganize project administration and provide for further decentralization and provide the appropriate administrative basis for facilitation of new directions and post-project continuation and institutionalization;
- (4) to emphasize social and community development (in order to provide for various basic needs and lay the groundwork for long range attitudinal and behavioral change which will reinforce community participation in and responsibility for continued and cumulative development);
- (5) to summarize and disseminate the Mae Chaem project lessons and experiences (both for the replication of various components of the Mae Chaem model and as a reference for others).

During these final 2 years, USAID, the Project Director (Chiang Mai Governor), the Deputy Director for Administration, and the Mae Chaem District Office became concerned about the ability and resolve to continue development efforts in the project area after June 1989 and cessation of special financial assistance. Therefore, considerable time was spent in discussion and exploration of the various possible administrative mechanisms which could facilitate and direct continuing efforts, albeit on a reduced scale.

The most productive and practical line of thought was in the direction of incorporating further development activities into provincial plans and delegation of authority for implementation to provincial and district agencies. It was also deemed appropriate to transfer a number of facilities and equipment (e.g. POU complex, 4WD vehicles, motorcycles) to the Provincial Administration Organization (PAO) for use in the district. Thus, the PAO could allocate budget to funds-strapped district agencies in order to use and maintain those equipments and facilities.

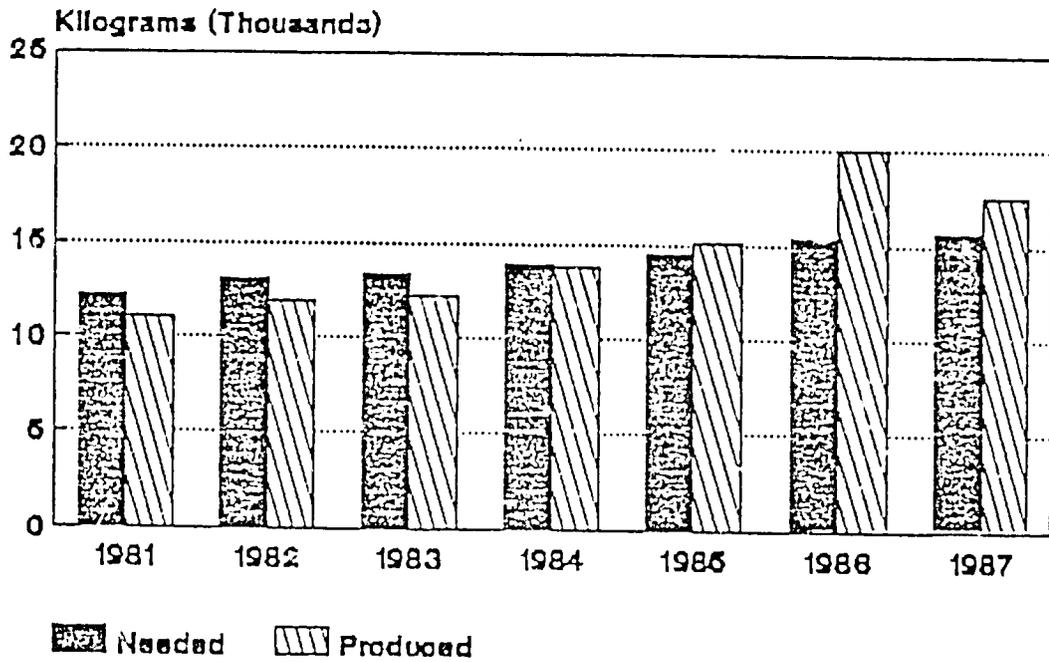
#### VIII. Notable Achievements of the Mae Chaem Project

##### Self-sufficiency in Rice Production

At the beginning of the project in 1981, while the rice needs (for consumption) of the project area were approximately 12.15 tons, only 10.95 tons were produced (and the majority of this in the wet rice fields of the northern Thai farmers]. In 1984, parity between needs and production (13.95 vs. 13.80 tons) was achieved and by 1987 the situation had clearly reversed for the previous 3 years (in 1987, needs = 15.72 tons and production = 17.54 tons). (See Graph #1)

Graph #1

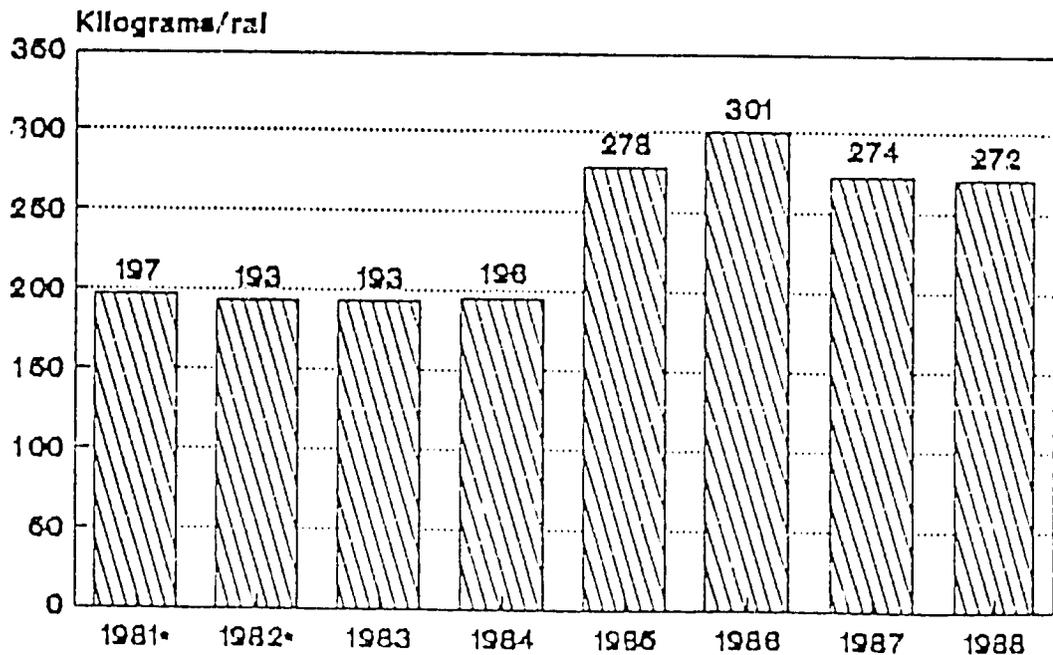
### Rice Needs vs. Production in the Mae Chaem Project



Source: Mae Chaem District Agriculture Office records

Graph #2

### Field Rice Yield in the Mae Chaem Project



Source: Mae Chaem District Agriculture Office records

\* Includes only 2 of 5 tambone

Yields for both wet and field rice increased by large margins over this period, mainly as a result of the project's Accelerated Impact Program (1985-1987), which promoted better seed, technology, and the use of compost and other fertilizers and the expansion and improvement of water resources. Of prime importance was the increase in field rice yield (the staple of tribal communities) from 197 kilograms/rai in 1981 to 272 kilograms/rai in 1988. (See Graph #2)

#### Reduction in Opium Production

Although no specific activities were aimed directly at reducing the cultivation of opium poppy, a basic assumption of the project was that the sum total of project development activities would have a strong negative impact on overall opium production. This was proved beyond any doubt between the years 1986/7 and 1988/9 when the total area cultivated fell from 3,690 rai to 1,707 rai, a decrease of 53.7% in just two years. (See Graph #3)

It is interesting to note that during this two year period, cultivation by the Hmong decreased, cultivation by the Karen remained stable, and cultivation by the Thai (often from adjacent Chom Thong District) increased. Unfortunately, the project was in no position to affect the increased opium production on the part of Thais outside the project area other than making information available to the authorities in charge. (See Graph #4)

#### Issuance of Land Use Certificates

The issuance of legal rights to live and work on the land in this watershed was a major accomplishment of the Mae Chaem Watershed Development Project which required a Cabinet decision to bring about. In the meantime, no other project has been able to match this and, given the prevailing political climate, will not be likely to in the near future (although the 3rd Army, the Dept. of Public Welfare, and several other agencies have begun to see the wisdom of this approach].

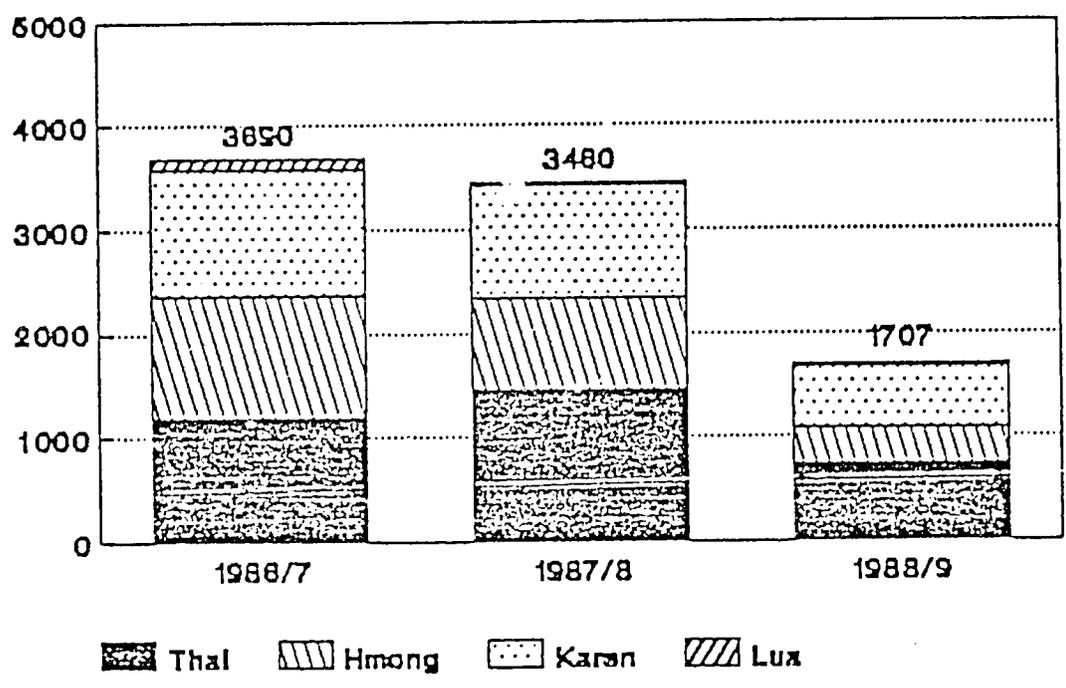
While the project's goal in securing Land Use Certificates was large to begin with (4,000), it actually exceeded this (4,172) during the period 1983-1987. It is interesting that, to date, ongoing surveys show that there have been no infractions of the conditions placed on the use of this land by the certificate holders. (See Graph #5)

#### Exceptionally Improved Village Access

A key requirement in the provision of services and economic development of a remote area is access. In order to thoroughly upgrade village access, the project projected the rehabilitation and construction of 159 kilometers of roads within the watershed. This included both major routes linking tambons and a network of village feeder roads. By 1987, this goal had been exceeded (175 km.) and by the end of the project a total of 224 km. had been either rehabilitated or newly constructed. (See Graph #6)

Graph #3

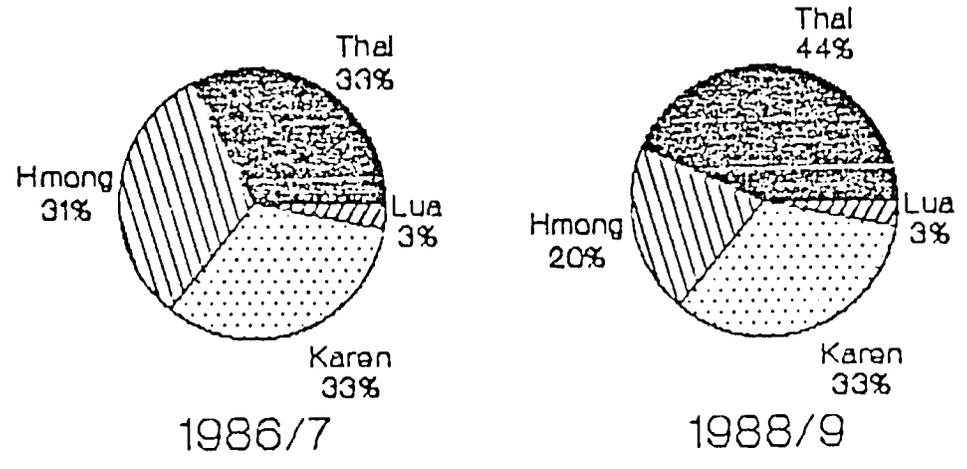
### Change in Opium Cultivation in the Project Area 1986/7-1988/9



Source: Mae Chaem Project records

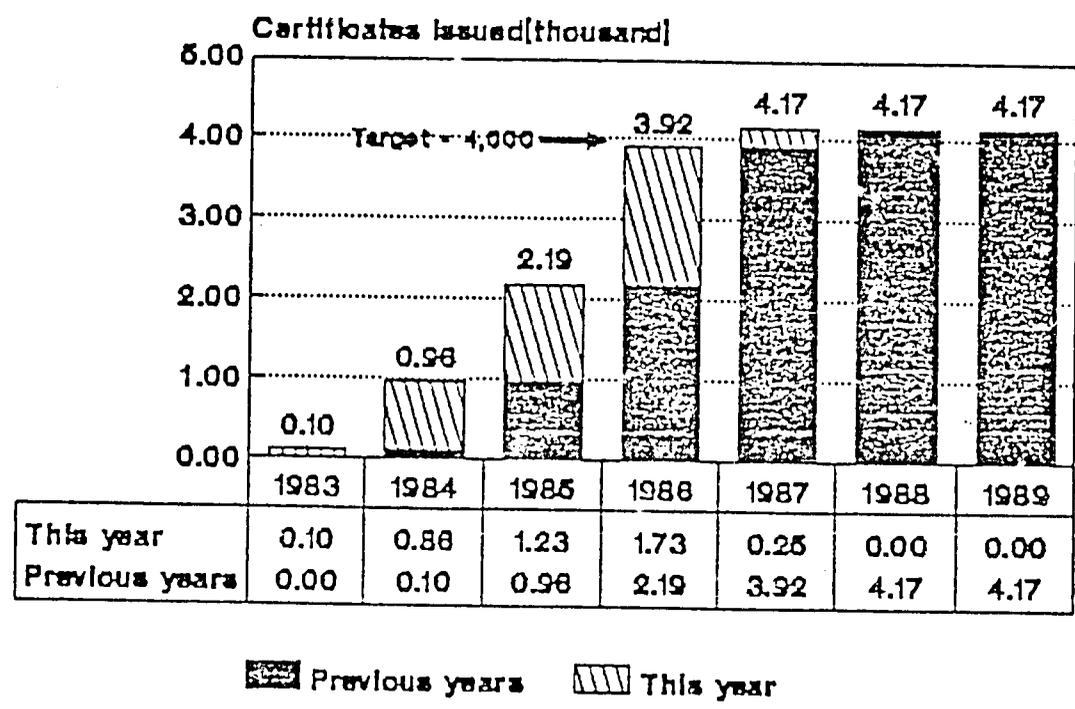
Graph #4

### Ratio of Opium Cultivation by tribe in 1986/7 and 1988/9



Graph #5

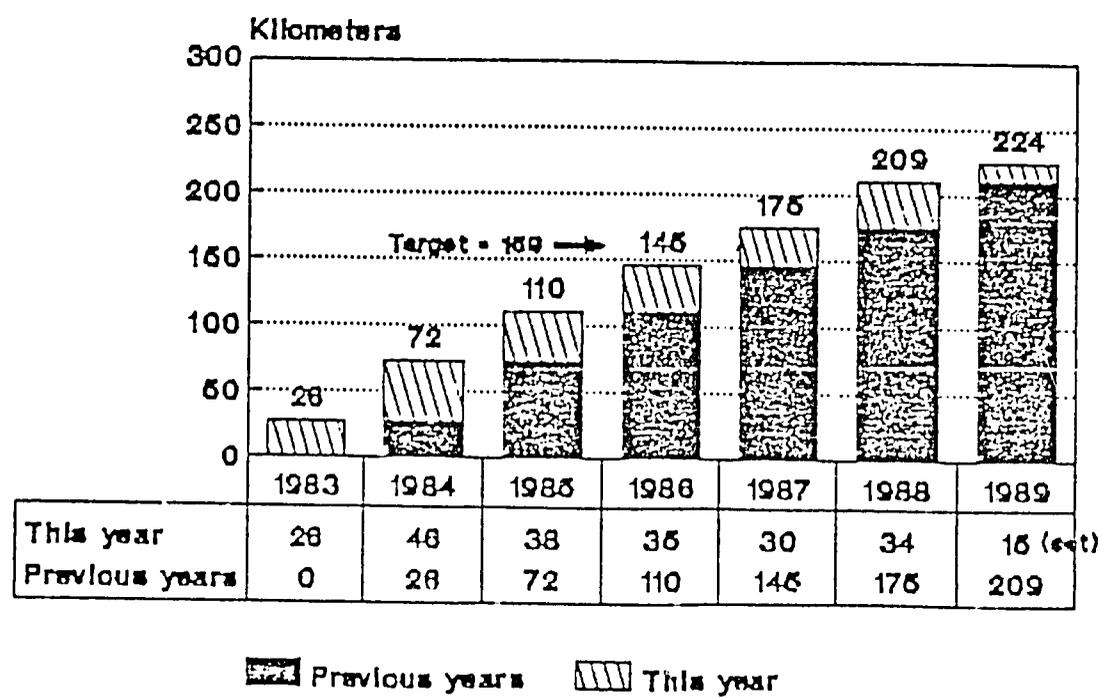
### Land Use Certificates issued under the Mae Chaem Project



Source: Project records

Graph #5

### Road Construction/Rehabilitation under the Mae Chaem Project



Source: Project records

### Decentralization of Project Administration

Perhaps the most challenging achievement of the Mae Chaem Watershed Development Project and one which facilitated the attainment of all others was the decentralization of authority for the administration and operation of the project. If the Governor of Chiang Mai had not been appointed Project Director and the project had continued to be managed at the national level, it is very unlikely that advancements would have been as rapid and responsive to local needs as they were.

A comment by the Development Alternatives, Inc. 1987 evaluation team is worth mentioning in this context:

"The project's management system has been effective in directing field activities and in providing for their coordination. This is a significant accomplishment. However, this success was heavily influenced by the personal interest and enthusiasm of the Project Director (the Governor) and his deputy for administration. Their organizing and leadership skills are exceptional."

Their report goes on to note that:

"Although it is unlikely that this combination would be available for other projects and thus cannot serve as a model for other donor-funded projects, the province/district structure would be valuable for other projects to consider."

### Effective Project-To-Village Interfacing

The Mae Chaem Project was the first major donor-assisted highland development project to implement the concept of facilitating communications between RTG agencies/project staff and villagers through the use of non-institutional teams of young persons with a strong interest in development and rural communities--Interface Teams. In the wake of the Mae Chaem Project initiative, the Thai-German Highland Development Programme introduced Contact Teams to provide for a similar function.

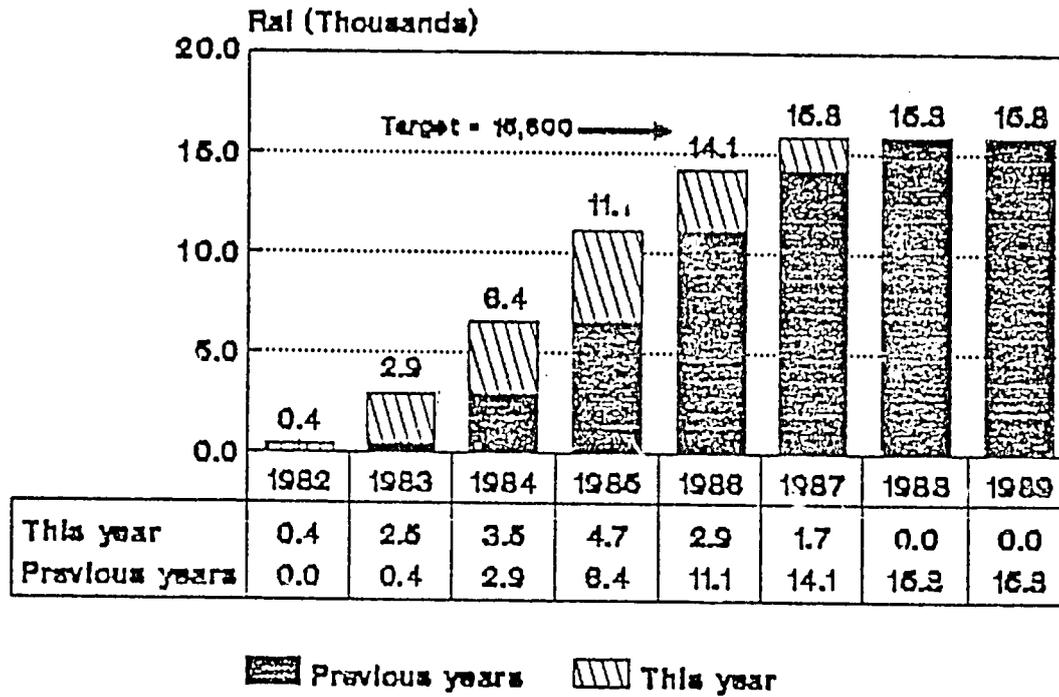
Without the Interface Teams, the project would undoubtedly not have succeeded to the degree it has in field data collection, project-to-community linkages and understanding, and the development of self-reliant community development structures.

### Effective Environmental Conservation Measures

While other large integrated area development projects chose contour ridges, grass strips (alley cropping), and other environmental conservation measures, the Mae Chaem Watershed Development Project decided to construct bench terraces, even with the greater cost involved. Such an approach, it was reasoned, would not only help to prevent erosion and retain the topsoil, but would increase agricultural yields. With a target of 15,600 rai, the project completed a total of 15,832 rai during the period of 1982-1987. (See Graph #7)

Graph #7

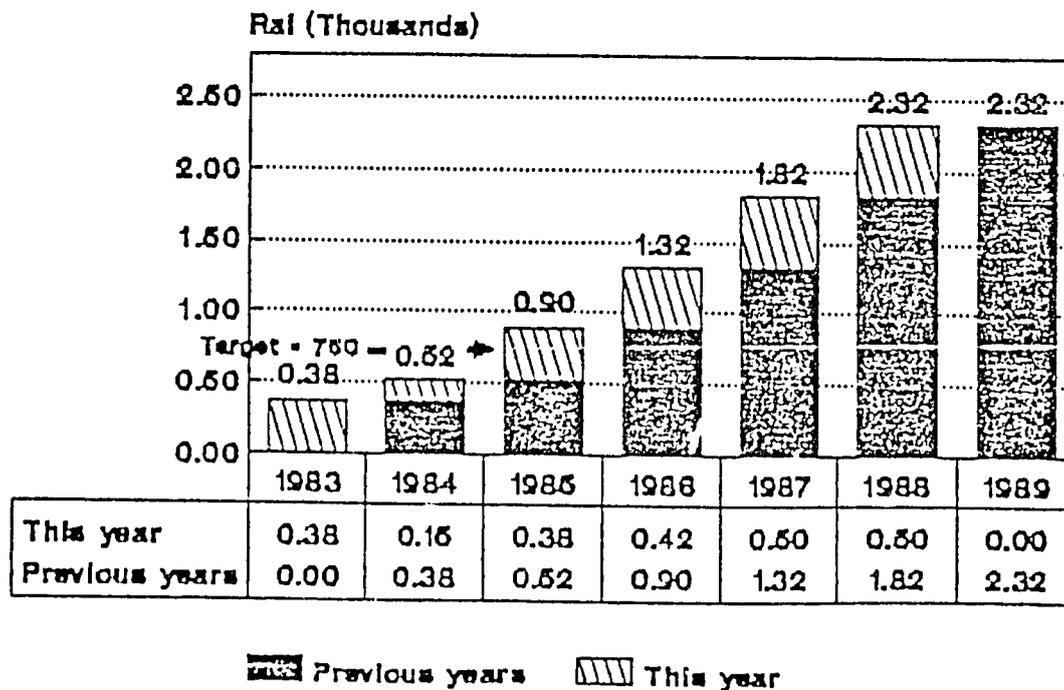
### Bench Terrace Construction under the Mae Chaem Project



Source: Project records

Graph #8

### Community Woodlots in the Mae Chaem Project



Source: Project records

The effectiveness of the Mae Chaem approach is shown in a research report by Harper & El-Swaify ("Sustainable Agricultural Development in North Thailand: Soil Conservation as a Component of Success in Assistance Projects, 1987):

"The most striking reduction in erosion occurred in the highlands, on the Mae Chaem sites, where bench terracing reduced annual erosion rates by 78 per cent, from 155 to 34 tons/ha."

Further evidence of this outcome is contained in a 1988 report of research carried out by Sinth Sarobol ("The Attitudes of Farmers towards Highland Soil & Water Conservation in the Mae Chaem Watershed Development Project"):

"After examining the attitudes of the northern Thai and Karen, it was found that they believed that bench terracing reduced soil erosion more effectively than did traditional methodologies.

. . . after the implementation of soil and water conservation measures by the Mae Chaem Watershed Development Project, the amount of erosion declined to a moderate level."

In addition, the Mae Chaem Project experienced unexpected success with community woodlots when the emphasis was changed from 'firewood' trees to fruit trees (e.g. mango, lychee). Over 2,320 rai were planted during the period of 1983-1988, with the goal of 750 rai exceeded in 1985. (See Graph #8)

#### Overall Economic Performance

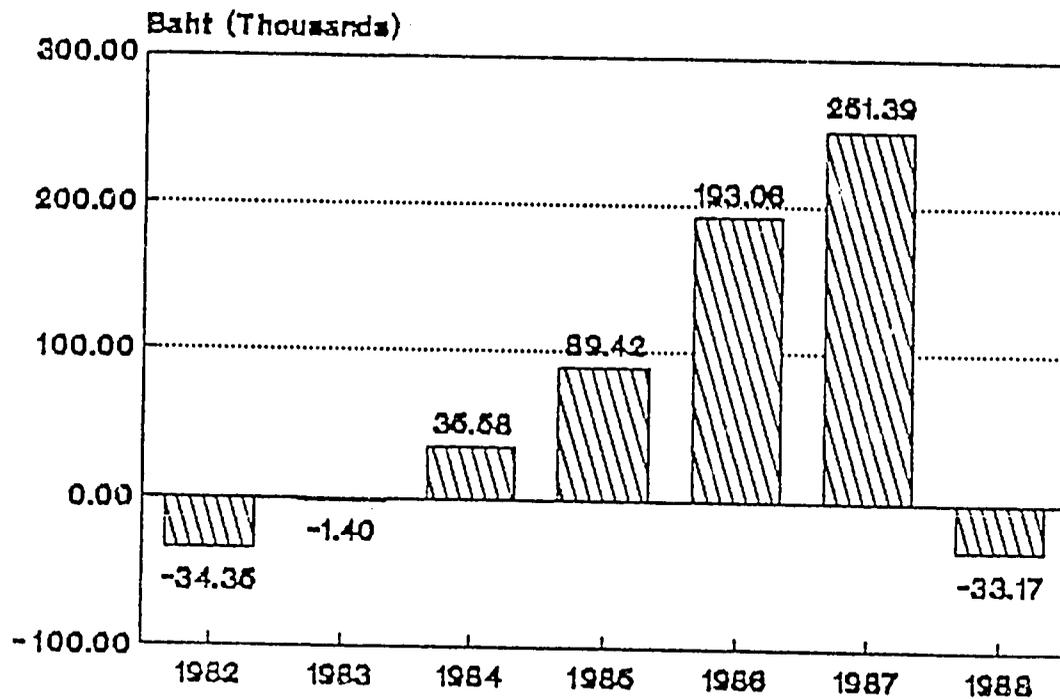
During the course of the project, the sum total of activities gave collective rise to remarkable improvements in a number of key economic indicators as noted below.

Mae Chaem Agricultural Cooperative Despite the Cooperative showing a net loss in 1988 (because of poor planning and execution on the part of a single individual), its performance over the preceding 6 years was commendable, especially given the general substandard record of most cooperatives. The net loss of 34,350 Baht in 1982 became a net profit of 251,390 Baht in 1987, with smooth annual increases during each of the 6 years. This was due not only to project support, but the outstanding performance of the District Cooperative Officer (who was reassigned in 1988) and his staff. (See Graph #9)

District Tax Revenues Both because of infusions of project funds and overall improvement in the District's economy, tax revenues increased from 860,000 Baht in 1981 to 3,670,000 Baht in 1988, a more than fourfold increase in 7 years. (See Graph #10)

Graph #9

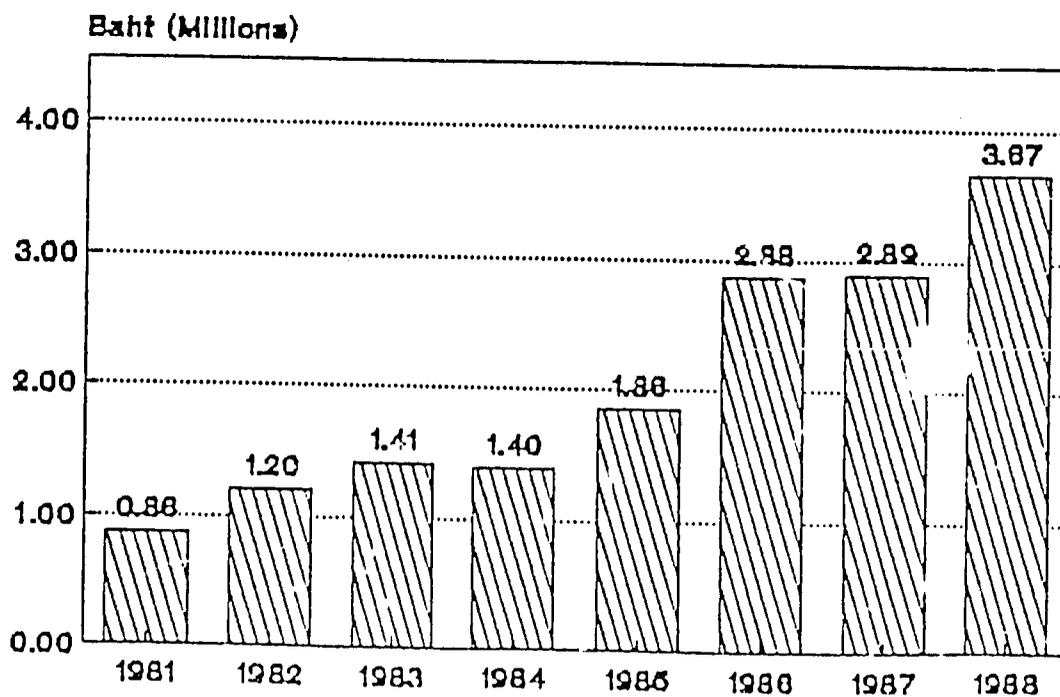
### Mae Chaem Cooperative overall profit & loss



Source: Mae Chaem Cooperative

Graph #10

### Tax Revenue in Mae Chaem District



Source: Mae Chaem District Office

Registered Businesses In the same vein, the number of registered shops in Mae Chaem District increased from 70 in 1982 to 279 in 1988, almost 400%. (See Graph #11)

Number of Durable Goods During the period of 1983-1986, the number of pickup trucks owned in Mae Chaem District went from 71 to 310 (over 400%) while the number of motorcycles went from 510 to 1,019 (almost 200%). (See Graph #12)

#### Community and Social Development

Advances in this area are terribly hard to quantify and equally hard to explain without experiencing the changes taking place over a period of time. Moreover, human resource development activities received little emphasis (other than the work of the IF Teams) until the later stages of the project (approximately 1985-86).

Nevertheless, the following achievements are probably the most crucial to long term sustainability and continuing development after June of 1989 when the project terminates.

Drug Addict Rehabilitation Center This Center, established in 1986 at a cost of approximately \$7,000, has treated over 700 hill tribe opium addicts within the project area at a cost of only \$32/person. The Center employs the same treatment program as used by other facilities under the Ministry of Public Health, but has a much lower post-treatment retoxification rate (41% compared to 60-90% under other programs) due to various factors, including: central field locality; treatment of groups of addicts from the same village; assistance by familiar faces (IF Teams) during treatment; and community level pre-treatment preparation and post-treatment follow-up. Post project data (October, 1989) indicates that higher recidivism rates (80%) now exist. This is not unexpected given very limited follow-up.

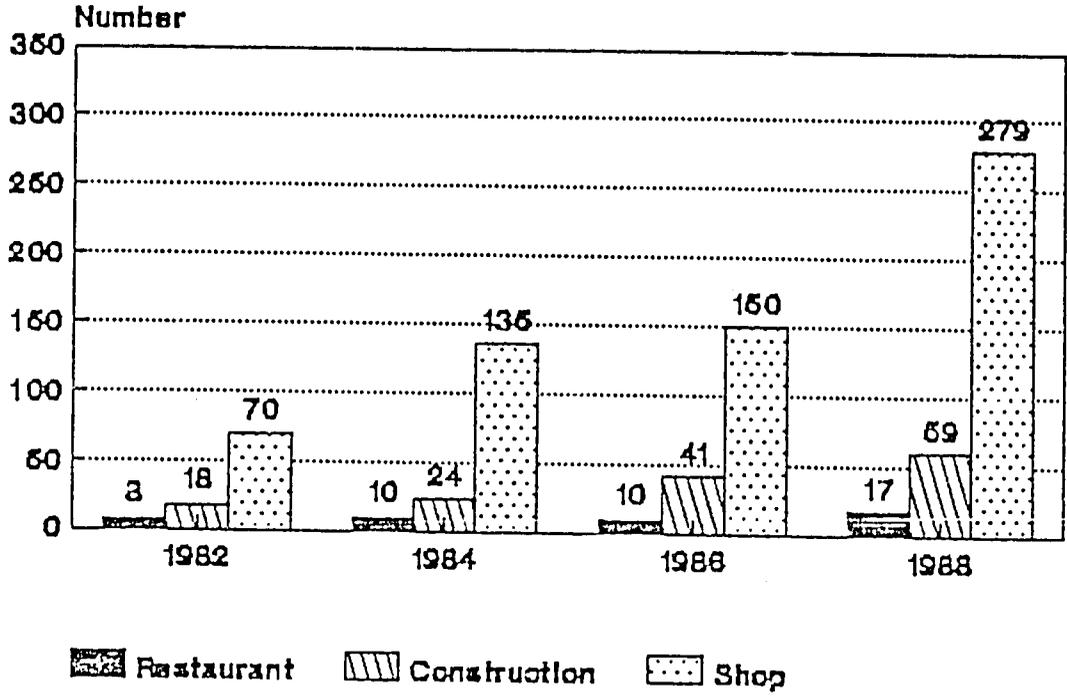
Village Leadership Development During the past 3 years, a team of social thinkers and practitioners from the Chiang Mai Teachers College has assumed responsibility for community and human resources development in 6 remote core and 9 satellite villages in the uplands and highlands of the project area. One of the key approaches has been the development of present and future leadership in the communities, especially the promotion of natural leaders. This has included a judicious mix of training, hands-on self-directed planning, study trips, and mutual assistance activities among the villages. As a result, these villages have gained collective planning and development skills and, in some cases, begun to provide assistance to adjacent villages.

This is exemplified by the responses of IF Team members on a 1986 questionnaire evaluating the Mae Chaem Project:

In response to the question "How prepared are the villagers to take over IF duties?", 38% answered "can take over most duties", 40% answered "can take over some duties", and 22% responded "can't take over much".

Graph #11

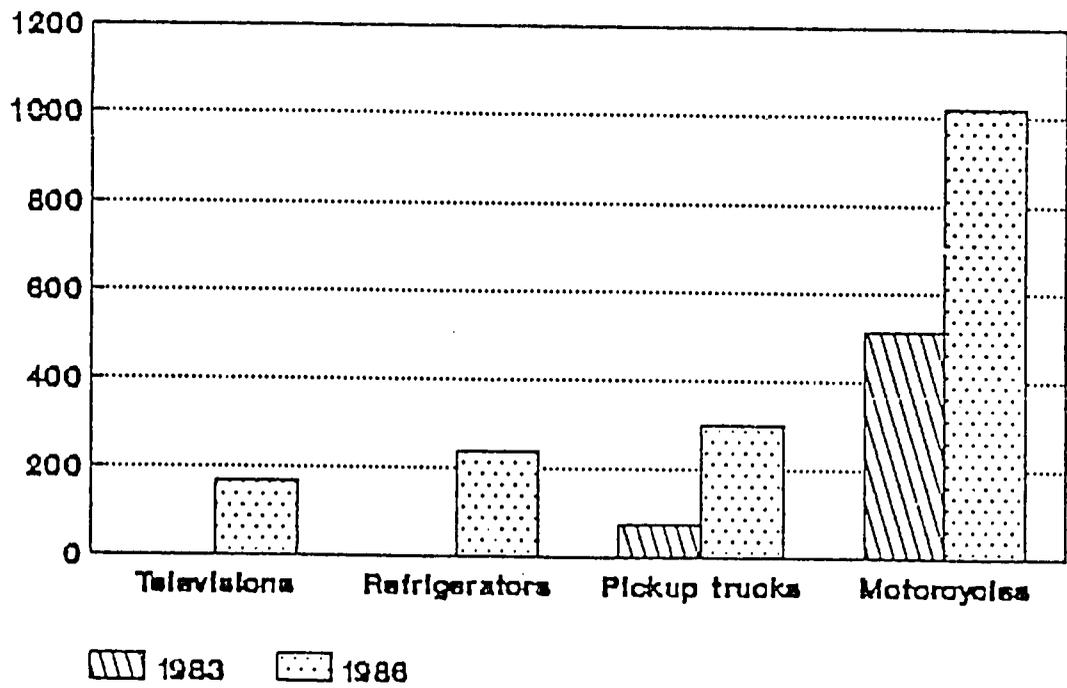
### Registered Businesses in the Chaem District



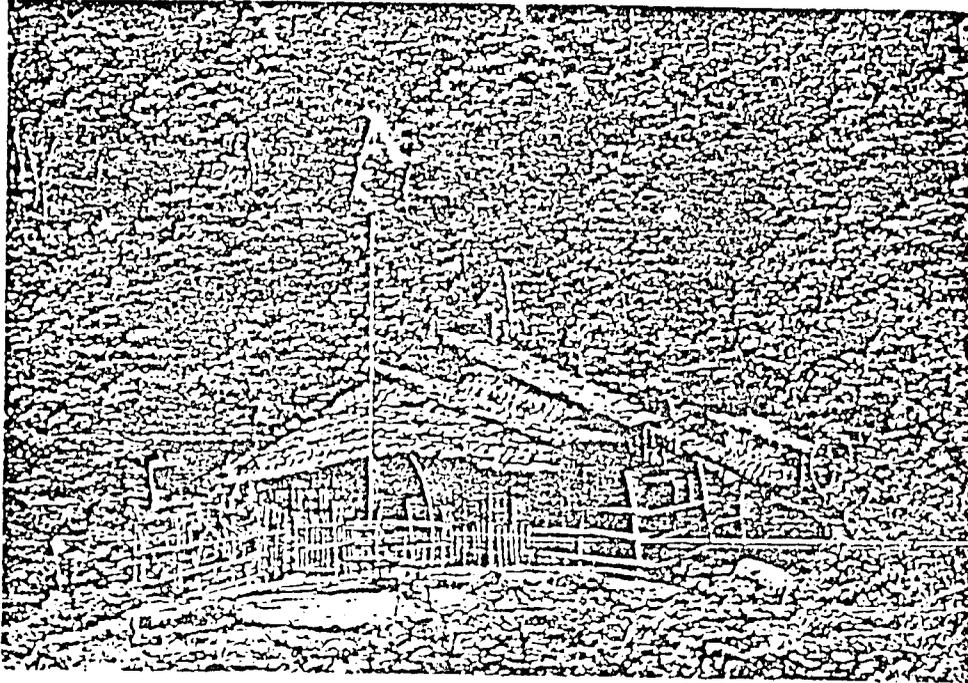
Source: Mae Chaem District Office

Graph #12

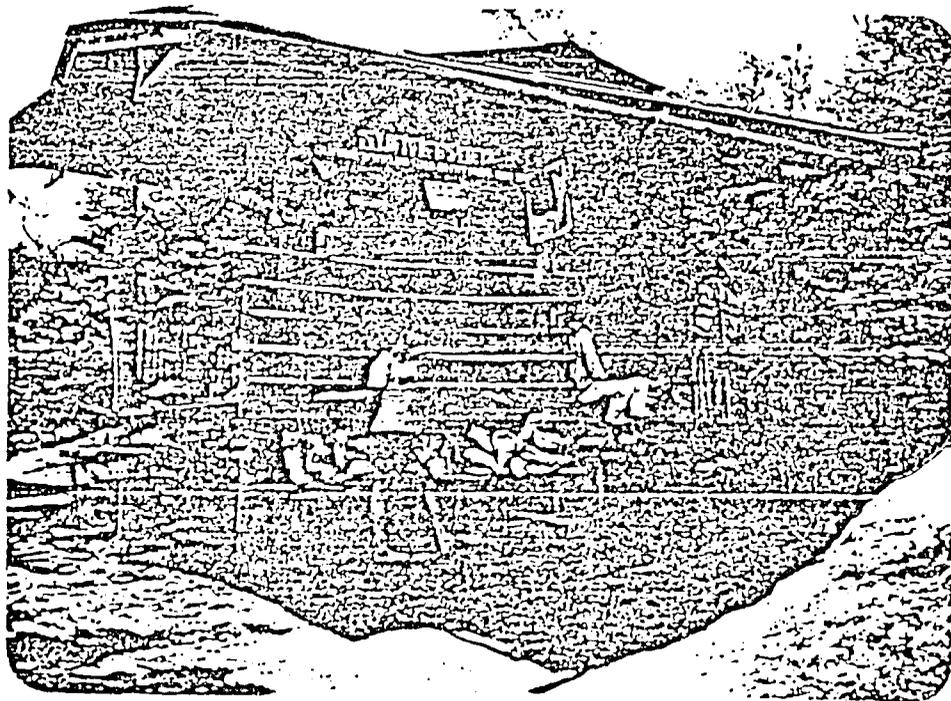
### NUMBERS OF DURABLE GOODS in the Mae Chaem Project area



Source: Mae Chaem District Office



Simple Village Education Centers became the focal point for learning, development, and more traditional community activities.



Community generated efforts, such as "medicine banks" were the end result of development processes ongoing in the villages.

It is important to note that these responses were recorded over 2 years ago, when the social/community development program had barely begun.

Education Development Overseen by the Chiang Mai Teachers College as well, these activities have been integrated with the leadership programs and have taken the following forms:

Village Learning Centers: These Centers (based on the Hill Areas Education model developed by the Department of Non-formal Education under USAID grant) seek to provide educational opportunities (up to the 6th grade) to children and adults alike, while serving as a resource center and a central focus in the village for all community activities, whether traditional or introduced from the outside.

Vocational Education: These programs assist the villagers to gain skills that permit them to maintain some independence from the larger economic society which surrounds them, with a consequent growth in self-reliance. They include training and practice in blacksmithing (recycling metal products), brick making (using local materials), establishing cooperatives, fish farming, mushroom growing, and weaving.

Coordinated Educational Services: Perhaps one of the more farsighted accomplishments has been the preparation and approval (by the Ministry of Education in 1988) of a coordinated plan for the organization of educational, religious, and cultural activities within Mae Chaem District. This plan is in the process of being implemented by the various responsible agencies of the Ministry.

## IX. Unrealized Potential of the Mae Chaem Project

During the past 9 years, the project developed the potential for achievements above and beyond the goals stated in project documents. However, due to various factors, this potential was not fully translated into action programs which would have resulted in augmented replicability and sustainability in the long term and the following topics continue to be of concern.

### The Mae Chaem Model of Watershed Development

The Mae Chaem Watershed Development Project conceived, tested, and refined a considerable number of practical and efficient approaches to the development of watersheds in the north (e.g. IF Teams, environmental conservation, decentralization). Unfortunately, these methodologies reside largely in the minds of those responsible for implementation and the completed activities themselves, but not in a form which is readily transferred to others involved in watershed development. However, considerable progress was made in the end-of-project seminar during 14-16 June 1989) in which "elements" of the Mae Chaem model were developed. The objective of the end-of-project seminar was to:

- (1) Review, analyses, and summarize the key successful components of the Mae Chaem approach to watershed development;
- (2) Prepare a definitive set of summary documents detailing the various elements and procedures of the "Mae Chaem model" of watershed development in a form easily understood and adapted for use elsewhere; and
- (3) Presentation of the "Mae Chaem model" and individual approaches to the wider development community.

Perhaps the major reasons why these actions were not actively undertaken many months prior to the PACD were: (1) the participating agencies did not fully appreciate the value of testing and adapting new approaches for continuing use; (2) the project as a whole was so concerned with meeting targets that there was no sense of urgency in summarizing and recording its methods; and (3) attention was more directed at the large amounts of USAID grant funding than the ultimate goal of replicability.

#### Solid Foundation for Beneficiary Participation in Development

In the initial phases of the project, material development activities completely overshadowed the development of human resources among the target population. In the rush to achieve hard targets such as road building, water resource construction, improved rice yields, etc., programs directed at preparing the beneficiaries were relegated to much lower and frequently forgotten priorities. This was even more so the case with hill tribe communities. As a result, the following prerequisites for long term sustainability and self-generating development were not fully met during the original PACD (June 30, 1987) and thus were emphasized during the 2 year extension phase:

- (1) Attainment of development skills and understanding of the processes and value of development among the target population.
- (2) Hands-on experience with the implementation and administration of development activities among the target population. This means playing specific and meaningful roles in the development process during the course of the project.
- (3) Establishment of cooperative government agency-rural community mechanisms for mutually understanding, designing, and sharing the burdens of development activities.

It is felt that the social development phase of the project is the most important feature of the project. Unfortunately, the important building block was put in place late in the project. A number of factors explain the "late start" of social development: (1) the project began in a reversed order, with material development programs preceding preparation of the people participating in that development; (2) the extreme focus on very visible and

easily understood quantitative targets; (3) lack of appreciation of the basis for sustainability (i.e. genuine participation of the people); and (4) concentration on expending large amounts of funds rather than setting up viable self-maintaining systems of development.

The project staff feel strongly that a failure to reinforce community development initiative's underway and leaders already developed under the project, will affect long term sustainability of the project.

#### X. Projections & Recommendations for the Post-Project Era

Given the achievements and unrealized potential of the Mae Chaem Watershed Development Project, a number of projections can be made with regard to both the future of Mae Chaem District and the "Mae Chaem model" and its possible replication elsewhere. In addition, it is worthwhile to propose recommendations for future initiatives.

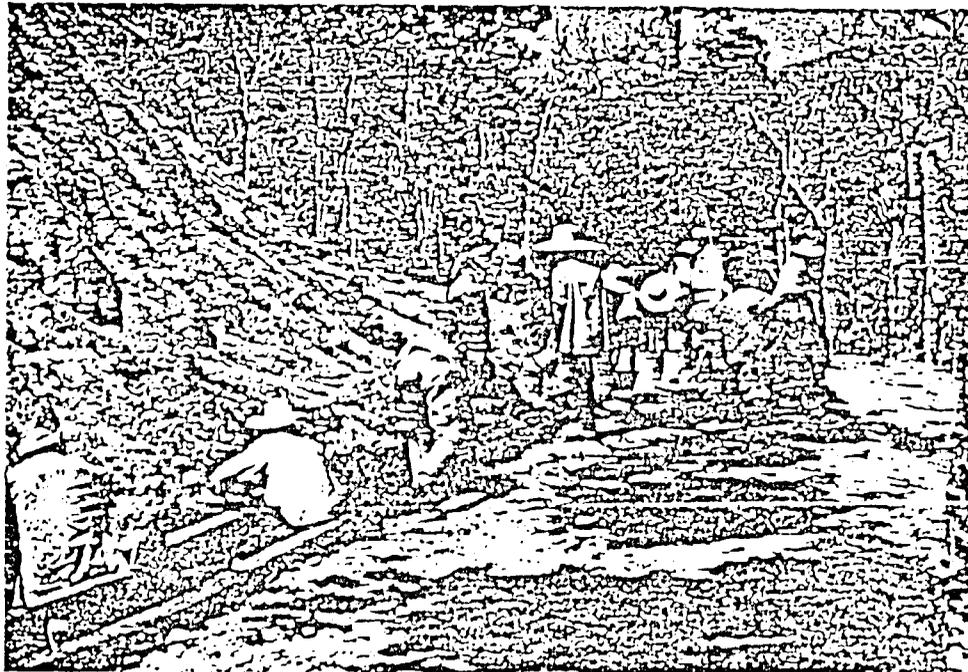
##### Mae Chaem District

Projections Although it is not possible to predict the exact post-project situation in Mae Chaem District, a number of both positive and negative conditions are likely to prevail, including:

- The economy will likely suffer a sharp decline due to the absence of project funds for construction, purchase of commodities, employment of staff, payment of per diem, etc. However, the economy will definitely remain well above pre-project levels and probably improve even more over the long term as a result of the gradually increasing impact of project accomplishments.
- Thai government services and activities as well as individual agency interest will decrease considerably, particularly with respect to the more remote tribal communities. The reason will be the cessation of special financial assistance.
- The quality and quantity of maintenance and rehabilitation of facilities constructed under the project (e.g. roads, water resources, POU complex) will likely suffer due to the lack of sufficient government budget.
- Villages will make an increasing number of requests for government services for two reasons: (1) under the project they learned that the government can provide these services; and (2) they were not trained under the project to provide for their own continuing development. Authorities may interpret these requests (negatively) as the villagers being spoiled by the project or (positively) as increased intelligence and desire for development on the part of the communities.



When the infrastructure constructed under the project requires maintenance . . .



. . . will the villagers themselves have the cooperative skills and resources to undertake repairs?

- A new and more proficient generation of village leaders will exercise a positive impact on the district as a result of skills and experiences attained under the project.
- CARE/Thailand will continue to work together with the District Office in the area of community/social development among hill tribe villages. Although this effort will be able to produce quality work, the impact will be limited because of financial resources.
- Mae Chaem District will not be likely to receive future special development assistance because of the large amount of funds already expended under the Mae Chaem Watershed Development Project.

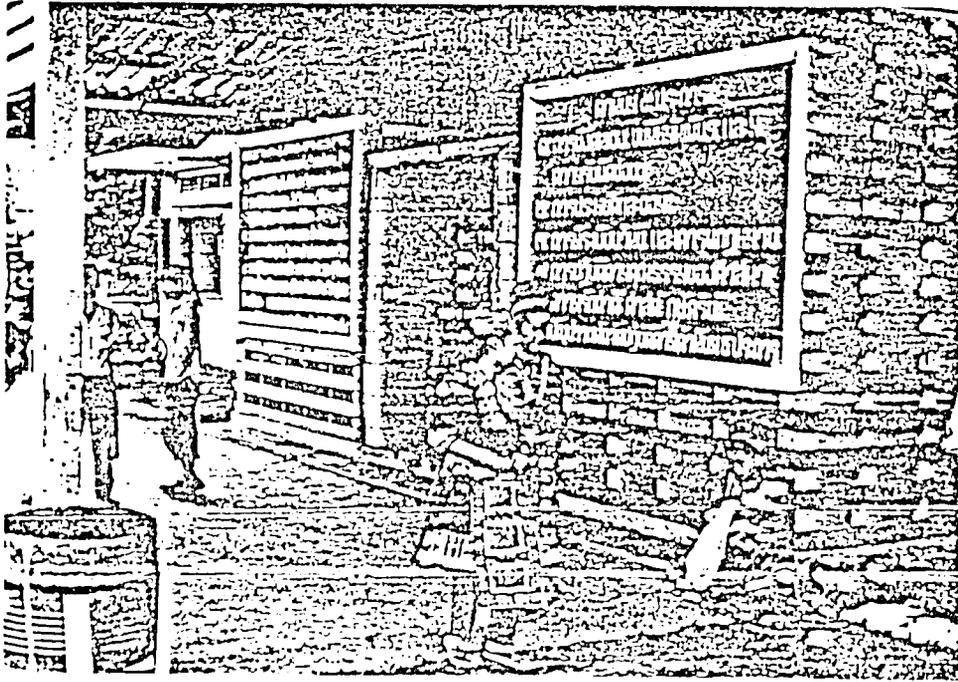
Recommendations Both Mae Chaem District and Chiang Mai Province should formulate development plans for the Mae Chaem watershed which recognize: the past 9 year history of the Mae Chaem project, the crucial need for inter-agency coordination (from district to national levels), and the essential role of watershed residents, both Thai and hill tribe. These plans must address the following issues:

- joint determination of development priorities between the government and Mae Chaem residents
- cooperative sharing of the burden for development among the various government agencies, the Provincial Administration Organization, CARE, and the communities, with an equitable role for all
- the reinforcement of human resources and community foundations critical to effective and sustained development
- the maintenance and consolidation of both material and social gains achieved under the project
- mechanisms designed to effect inter-agency coordination at provincial and higher levels

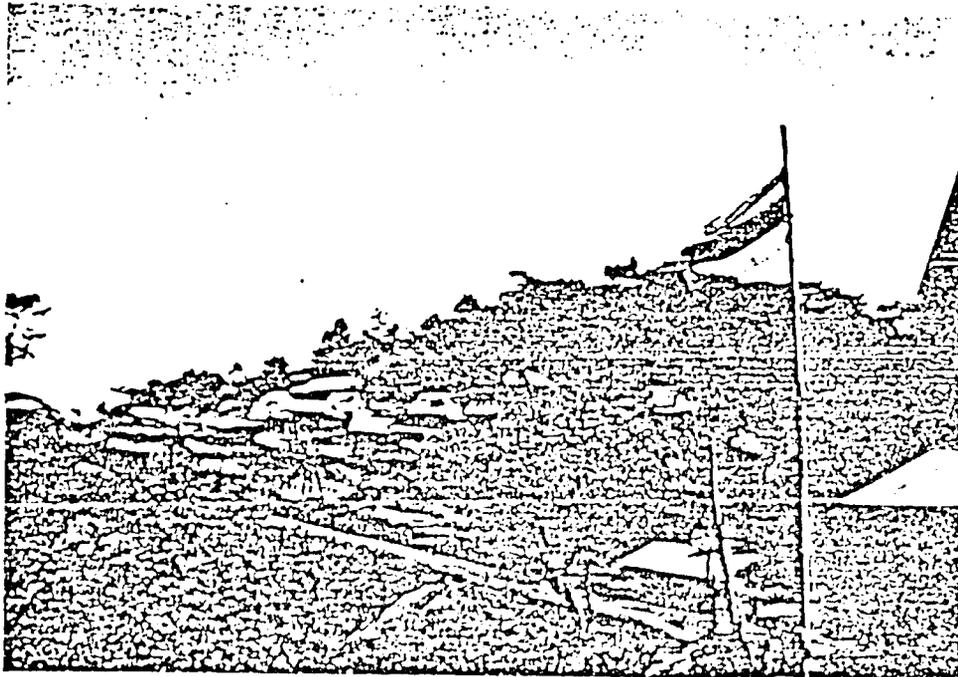
In addition, due to the previous history of Mae Chaem District as a "sensitive area" with respect to national security, the 3rd Army retains a special interest in this watershed. Given the 3rd Army's new role (through the Center for the Coordination of Hill Tribe Affairs & Eradication of Narcotic Crops (COHAN)) in the oversight of tribal development, either the 3rd Army or the National Security Council may be able to assist in the focus of higher level attention on Mae Chaem and the consequent coordination of national level agencies.

#### The "Mae Chaem Model" & Its Replication

Projections It is quite likely that the late development of the Mae Chaem "model" has minimized it's potential impact, as there is little time and no resources, to follow up with other donors and RTG agencies to press for



Will the District Office be prepared to cope with the increasing needs of the villagers?



And will government agencies be able to maintain their presence in the villages?

adoption of the model. As a result, there is likely to be little or no replication of the Mae Chaem approach to watershed development (except for minor portions of some methods) on a wider scale, because: everyone will have "gone home", all concerned will have plenty of routine duties to perform within their agencies, and there will be no incentives for pursuing this any farther.

## XI. Learning Lessons & the Repetition of History

The goal of any development project is to provide lessons for both the beneficiaries and persons involved. This is especially important in a "model building" effort. If these lessons are not learned, then history (and the mistakes inherent in it) is doomed to repeat itself. In the Mae Chaem Watershed Development Project, a number of lessons were learned to varying degrees. Here are the more prominent ones.

Coordination & Communications Are Crucial In early 1989, a very senior retired (but still working) government official visited the Mae Chaem Project. Upon hearing of various administrative difficulties which had plagued the project, he remarked, "Your problem is whiskey-soda coordination". By this he meant that coordination in the Mae Chaem Project, like most others, is too unstructured, too informal, and not really binding.

The lesson is a multiple one:

- Inter-agency coordination is crucial to the success of a project and must be conducted at all levels (from field to national) from the very outset
- Structures and requirements for coordination must be established and agreed on by all parties prior to the start of the project. Procedures for the periodic review and revision of these structures and requirements must also be formulated
- Frequent and continuing communications among all responsible agencies must be maintained to ensure mutual understanding and convergence of actions

Preparation of the Beneficiaries Should be First Priority In a small community development project in nearby Samerng District, a well and hand pump had been installed in a rural village. When the retaining bolt on the pump had sheared off, the well went unused for nearly a year. A villager was asked why they hadn't fixed it and replied, "I don't know, it's their (the project's) pump".

The lesson is: Any development project must be willing to expend a fair amount of time and other resources in preparing the target population for ensuing project activities. Otherwise there will be little understanding or acceptance of the development that goes on around them and, as a result, the effort will not be self-sustaining. This preparation should:

- begin at the outset and precede all other development activities in the field, especially material development (e.g. roads, new seed)
- include, as a minimum, community leadership, education and close and continuing contact with project staff
- provide the individual communities with a meaningful role in the project, including identification of needs and activities, implementation, and follow-up and evaluation
- establish a feedback system, whereby villages and villagers can communicate directly with responsible project officials

Individuals (not agencies, not systems) Are the Key If the Mae Chaem Watershed Development Project had not had the particular Project Director or Deputy Director for Administration that it did, progress would have been much slower and several objectives (e.g. decentralization) would still not have been met in an effective manner. This is not to say that agencies and systems are not important. They are. But within each agency and every system devised there is a great deal of latitude in thought and action and if courageous and progressive persons are not in positions of authority it is extremely difficult to explore new and creative approaches. The success of any project will depend to a considerable degree on its key personnel.

The lesson is: Despite the fact that both donor and implementing agencies must follow certain bureaucratic procedures and traditions in designing and conducting projects, a serious effort should be made to identify and appoint individuals with special qualifications to key project positions. These qualifications include:

- courage in the face of opposition from traditionalists
- strong convictions, especially with respect to the basic ideals and original approaches of the project
- ability to compromise among persons and agencies without compromising the main thrust of the project
- a guaranteed term with the project, sufficiently long to ensure the initiation of basic principles and approaches

Money is a Double Edged Sword There is a well established foundation in Bangkok which has turned down consideration of relatively large sums of money for development projects for approximately 10 years. The rationale is quite rational - it is difficult to both control quality and ensure later replication when funding is high. Lots of money tends to spoil us all in the sense of doing things on a large and expensive scale - things which can't be repeated elsewhere without equally large sums of money.



Can the development approaches which proved successful in the Mae Chaem Watershed Development Project . . .



. . . be replicated in other areas, under different circumstances, and with different populations?

The lesson is: Unless you're involved in a welfare program, development monies should be allocated and expended very economically. One should never lose sight of the fact that doing something too well can guarantee that it will not be done elsewhere, because no one else can afford it. In addition, large amounts of money will draw people's attention and participation in a project for reasons other than the project's own goals.

Administrative Decentralization Breeds Sustainability You can lead a horse to water, but you can't make him drink. In the March 1989 issue of "Adult Education & Development" there's an article entitled "Pomelo Creek Village" relating the experience of a hill tribe project in Thailand and how development imposed from above can fail. A villager summarizes the construction of a community water supply system,

"I don't understand it. Just because not one person used the new water system, why were the officials irritated? We helped them build it. We helped them celebrate it."

Development projects administered at the national level have a definite edge in high level coordination, as well as proximity to the donor and monitoring agencies. However, decisions are made at great distance from the field and, thus, are necessarily slower and farther from the conditions and realities in the communities that they serve. A new community water system may appear to be a logical and beneficial project activity, but unless both the communities and government officials at lower levels are cooperatively involved in the decision, its implementation will be difficult and its half-life will be short.

The lesson is: The administration of development projects must be decentralized to the lowest level consistent with authority to coordinate among agencies and ability to respond to community needs in a responsive manner. Higher level agencies have neither the personnel nor the time to deal with day-to-day operations efficiently. Their time and manpower are valuable and should be aimed at issues of policy and overall direction. If responsibility and authority are delegated to provincial, district, and even village levels, not only will the burden for development be shared but the mechanisms and desires for sustainability will be established.

Continuous & Creative Documentation Is Essential! What if Lewis & Clark had not made maps? Or what if Lewis & Clark drew poor maps?

The lesson is twofold:

- What transpires in a project should be documented throughout. It's a literacy-based world and memories are short. If it's not written down no one can refer to it and, therefore, no one will know what you did or how you got there. This includes both the good (for replication) and the bad (for avoidance).
- What is written down should be clearly and creatively done so. If it's not enticing enough to pick up or clear enough to understand no one will read it. And, in that case, why write it to begin with?

## XII. Review of Warranties and Project Covenants

Article 5 of the Mae Chaem Project Agreement dated August 29, 1980 included the following covenants. Each are reviewed briefly below.

### Article 5: Special Covenants

#### Section 5.1 Project Evaluation

The Parties agree to establish an evaluation program as part of the Project. Except as the Parties otherwise agree in writing, the program will include, during the implementation of the Project and at one or more points thereafter: (1) evaluation of progress toward attainment of the objectives of the Project; (2) identification and evaluation of problem areas or constraints which may inhibit such attainment; (3) assessment of how such information may be used to help overcome such problems; and (4) evaluation, to the degree feasible, of the overall development impact of the Project.

ACTION: The Mae Chaem project was closely monitored throughout its implementation period and was evaluated by an outside contract team from Development Alternatives Incorporated on two occasions. The first evaluation was conducted on August, 1983 and the decision to continue with the project was contingent upon the review conducted at that time. The second evaluation, conducted in May, 1987 was considered as the final formal project evaluation. However, the USAID project officer and later the Training and Administration Advisor, carried out informal reviews and measurements of progress toward purpose and goal attainment. The results are summarized in the Project Operations Unit's publications (see bibliography for complete listing).

#### Section 6.2 Project Support

The Grantee covenants to provide continuing and adequate budgetary and staff support for the Project.

ACTION: The RTG successfully supported the project during its implementation period and, during the final two years of the project; began the process of identifying means of continuing budgetary support to the project to maintain the infrastructure and to carry-on the development activities initiated under the project. The Project Director, Governor of the Province of Chiang Mai, requested that all feeder roads, bridges, weirs, and flumes be registered in the name of the local sub-Districts (tambons) in which they were located. By doing this, the District and sub-District can apply and qualify for provincial development funds for maintenance and repair. The provision of additional vehicular support to the District Office of Mae Chaem will increase the likelihood that social development and agriculture development activities (family planning, non-formal education, livestock development, agricultural extension) will be carried on and coordinated at the District level.

### Section 5.3. Use of Funds

The Grantee covenants to assure that funds reserved for Phase I of the Project will not be used for any activities within designated Phase II or III areas, with the exception of hiring and training of interface teams for those areas.

ACTION: The covenant regarding the use of funds in Phase I and Phase II and Phase III areas was fully complied with. However, after the 1983 evaluation, the phase II area was re-defined to include all of the Phase II areas but one sub-District (Tambon Ban Chan) was deleted in its entirety as it was considered too difficult to reach and too costly to develop given the existing problems with the project at that time.

### Section 5.4. Use of Land

The Grantee covenants that assistance provided under the Project will not be used in any manner for cultivation of poppy crops or opium and further covenants that it will effectively monitor and enforce such prohibition and take appropriate steps to terminate benefits to individuals using such assistance for the cultivation of poppy crops or opium.

ACTION: This was the famous "opium clause" of the Mae Chaem project. This covenant was carefully adhered to and often reviewed (the January 1987 GAO audit in particular concentrated considerable attention to this covenant). Volumes could be written about the Mae Chaem project, the opium production situation, and the actions taken by the project staff to live within the spirit and the letter of this covenant. The RTG strictly adhered to this covenant during the implementation of the project despite considerable developmental and personal risk. Through its development assistance and strong popular support, the project made considerable progress in the reduction of commercial opium production in Mae Chaem. Through its innovative pilot drug detoxification work it made considerable headway in reducing demand for opium from Mae Chaem estimated 2,500 addicts. Production of opium continued to be reported from the Mae Chaem District but careful review of the data indicated that in most cases the cultivation was in areas outside of the Mae Chaem project boundaries or villages. The production which was identified in the project area was eventually eradicated. (The first eradication of the 1985 season was in a village in Mae Chaem District... the message was strong and clear... violation of the prohibition would be dealt with seriously.) After the initial eradication efforts the project staff's job of dissuading opium production became considerably easier. The forceful eradication message, in turn, stimulated the very strong demand for opium detoxification measures initiated in the summer of 1985.

Throughout the implementation period, the project staff coordinated its work with RTG enforcement personnel often at considerable personal risk... death threats were received routinely, an unexploded bomb was found at the home of the USDH Foreign Service National and travel to certain villages areas was restricted based upon intelligence gathered by provincial authorities. Finally, the land use certificate given to residents of Mae Chaem clearly stipulated that the cultivation, trafficking or use of illegal substances would result in the loss of land and criminal penalties. This most important of covenants was fully met by the RTG.

#### Section 5.5. Project Monitoring

The Parties covenant to carefully monitor the status of the Project, and if security or other constraints to proper implementation make it likely that the Project will not achieve its purpose or cause substantial risk to Project personnel, the Parties may agree to terminate or suspend Project activities at any time.

ACTION: The Mae Chaem project was "phased" both in order to avoid any problems related to personal security or risk to property as well as to be able to "withdraw" or terminate the project in case it became impossible to meet the project objectives. The 1983 project evaluation re-defined the villages to be included in the project's phases I and II areas (combining two sub-districts and dropping the northernmost tambon, Ban Chan). The evaluation was also specifically timed to provide USAID with a decision point with regard to the start-up of the second phase of the project. The project was successfully implemented and fortunately, there was never a need to terminate or suspend project activities.

The project agreement's covenants were conceived at a time in which the "high risk" nature of the Mae Chaem project was of paramount concern. However, project implementation decisions, particularly the naming of the Provincial Governor as the Project Director, relatively smooth administration of the RTG and USAID grant funds, close monitoring of the project including the full-time assignment of USDH USAID staff to Chiang Mai and the cooperation and support of the residents of the Mae Chaem District obviated the need for a number of the covenants originally prescribed.

RIG Audit of Project

Mae Chaem Watershed Development Project was audited by the Regional Inspection General (RIG). The results of the audit are included in Audit Report No. 2-493-86-04, dated May 28, 1986 which included three open recommendations: No. 1. Project Sustainability; No. 2. Project Monitoring; and No. 3 Monitoring of Project Commodities. RIG closed Recommendations 1, 2 and 3 of the audit report as per memorandum RIG/EA-87-070, dated January 7, 1987.

A follow-up audit verified that corrective actions taken by USAID/Thailand to close Recommendation No. 1 were sufficient. For Recommendations No. 2 and 3 the promised actions had been implemented but, in the opinion of RIG, they were not completed sufficiently to correct the deficiencies noted in the original audit report. Accordingly, Recommendations No. 2 and 3 were reopened (Audit Report No. 2-493-89-08, dated April 3, 1989). Subsequent Mission actions have allowed RIG to close Recommendation No. 2 and to consider Recommendation No. 3 as resolved on issuance of the report. Recommendation No. 3 will be closed when the promised actions have been completed. TR/ARD is preparing a memorandum to provide evidence that project resources had been monitored, and end-use checks of the project commodities were conducted as promised.

Summary Financial Statement

Project Funds (US\$)

For the period of 6/30/80 - 6/30/89

Project Element	AID Grant Funds	Royal Thai Government	
		DTEC	Impl. Agencies
1. Equipment/Commodities	1,275,725	-	228,000
2. Technical Assistance	323,614	253,000	-
3. Project Operation Unit	2,647,263	-	-
4. RTG Staff Support	66,125	700,000	1,965,000
5. Construction Cost	3,165,849	-	3,173,000
6. Watershed Maintenance	590,023	-	218,000
7. Credit	142	-	100,000
8. Evaluation/Research	<u>152,455</u>	<u>30,000</u>	<u>-</u>
Total	<u>8,221,196</u> =====	<u>958,000</u> =====	<u>5,684,000</u> =====

Summary Financial Statement

Grant Funds

For the period of 6/30/80 - 6/30/89

Project Element	Obligations	Commitments	Actual Expendi.
1. Equipment/Commodities	1,279,343	1,279,343	1,275,725
2. Technical Assistance	331,118	331,118	323,614
3. Project Operation Unit and IF Teams	2,688,593	2,688,593	2,647,263
4. RTG Staff Support	68,140	68,140	66,125
5. Construction	3,221,417	3,221,417	3,165,849
6. Watershed Maintenance	605,434	605,434	590,023
7. Credit	142	142	142
8. Evaluation/Research	161,786	161,786	152,455
9. Contingency	<u>0</u>	<u>0</u>	<u>0</u>
Project Totals	<u>8,355,973</u> =====	<u>8,355,973</u> =====	<u>8,221,196</u> =====

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