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รายงานการประเมินผลครึ่งอายุโครงการ

โครงการพัฒนาการเกษตรอาศัยน้ำฝนภาคตะวันออกเฉียงเหนือ

MID-TERM EVALUATION REPORT

NORTHEAST RAINFED AGRICULTURAL DEVELOPMENT PROJECT

USAID PROJECT NO. 493-0308



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PREFACE

The evaluation team wishes to express their hope that the results of the evaluation of the NERAD project will be of value to the officials tasked with its implementation and to the farmers of the Northeast, the primary beneficiaries of NERAD. In no sense is this evaluation intended to criticize any individuals involved with the project; rather, it is the goal of the evaluation team, as "outsiders" with limited knowledge of the project, to make specific recommendations regarding project implementation.

The evaluation team would also like to take this opportunity to thank the many people connected with the NERAD project who helped us immeasurably in conducting our evaluation duties: the staff of the agencies and departments of the Ministry of Agriculture, the staff of DTEC, and, of course, the farmers of the Northeast who took time out from their busy days even during the planting season to answer our questions.

Our special thanks are also extended to those individuals who travelled with the team as Resource Persons but who willingly acted, in fact, as full members of the evaluation team: Mr. Songkram Krajangnate, BOB; Mr. Jeera Prateep, BOB; Mr. Siranon Sakolwithayanon, BOB; Miss Pissamai Khanobdee, DTEC; Dr. Banterng Masang, OAE; Mrs. Saowanee Worapanich, OAE; Mr. Aran Roongsawarnng, MOF.

Finally, the team would like to thank the evaluation secretaries Benjarat Boonmak and Somchit Saithip, who gave up weekends and evenings unstintingly to get this evaluation report completed on schedule.

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ABBREVIATIONS, TERMS AND EQUIVALENTS

BOB	=	Bureau of the Budget
CPD	=	Cooperatives Promotion Department
DLD	=	Department of Land Development
DOA	=	Department of Agriculture
DOAE	=	Department of Agricultural Extension
DOF	=	Department of Fisheries
DOLD	=	Department of Livestock Development
DTEC	=	Department of Technical and Economic Cooperation
FSR/E	=	Farming System Research/Extension
FSRI	=	Farming System Research Institute
KKU	=	Khon Kaen University
MOAC	=	Ministry of Agriculture and Cooperation
NE	=	Northeast
NERAD	=	Northeast Rainfed Agricultural Development Project
NEROA	=	Northeast Regional Office of Agriculture
OAE	=	Office of Agricultural Economics
PP	=	Project Paper
RFD	=	Royal Forestry Department
RTG	=	Royal Thai Government
UK	=	University of Kentucky
USAID	=	United States Agency for International Development

TERMS

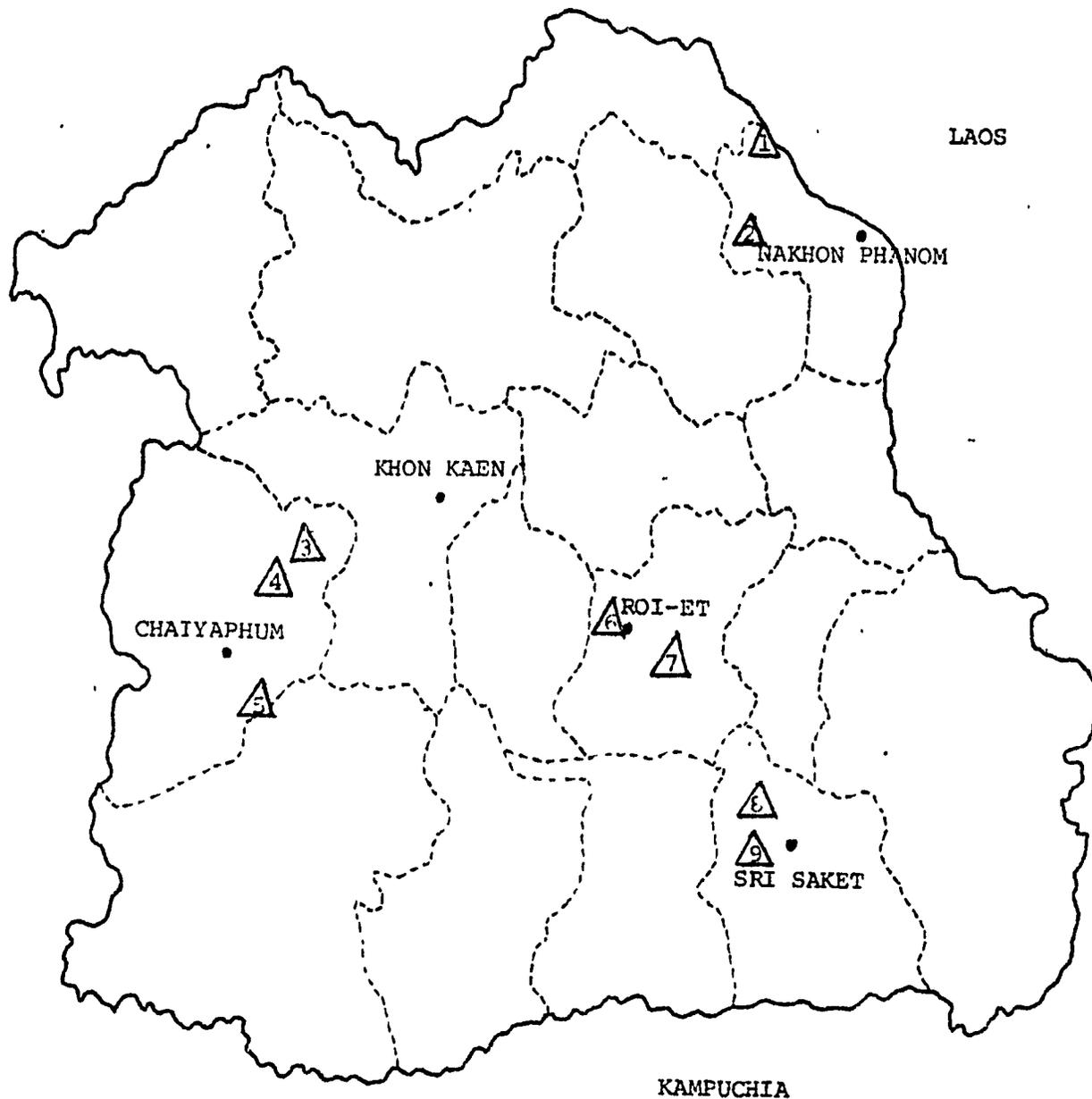
Changwat	=	Province
Amphoe	=	District
Tambon	=	Sub-District (the level above village and below Amphoe)
Muban	=	Village

CURRENCY EQUIVALENTS

U.S. \$1	=	Baht 27
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AREA EQUIVALENTS

1 rai	=	0.16 hectares (1,600 m ²)
1 hectare	=	6.25 rai



- Province
- △ Tambon

Map of Northeast Thailand showing NERAD Provinces and Tambons.

- | | |
|----------------|---------------|
| 1 - Na Thom | 6 - Nong Kaew |
| 2 - Na Ngua | 7 - Na Muang |
| 3 - Kwang Chon | 8 - Taket |
| 4 - That Thong | 9 - Tae |
| 5 - Lahan | |

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PROJECT IDENTIFICATION DATA SHEET

Project Number : 493-0308

Project Title : Northeast Rainfed Agricultural
Development Project

Project Assistance
Completion Date : August 31st, 1988

U.S. Contribution : Loan \$6,300,000
Grant \$3,700,000

Purpose of Project : Establish in 8 (9) representative
tambons of Northeast Thailand a
replicable agricultural development
program for increasing farm
productivity and farm incomes
particularly among lower income
farmers in rainfed agricultural
zones.

I. EXECUTIVE SUMMARY

1. PROBLEM AND OVERVIEW

Due to poor soils and erratic rainfall patterns the majority of the farmers of the Northeast are subsistence-oriented, rainfed rice farmers -- the poorest in the Kingdom. To address these conditions most of the technology developed by the national agricultural program of the Ministry of Agriculture and Cooperatives (MOAC) have either been commodity- or discipline-oriented under the relatively protected conditions of the departmental experiment stations. In this technology development process the linkages between research and extension have also been very tenuous.

The Northeast Rainfed Agricultural Development (NERAD) Project is an effort by the MOAC to begin to address this gap in the development and delivery of technology to NE rainfed subsistence farmers. The purpose of the Project, as stated in the LOAN and GRANT Agreements, is "to develop in eight representative tambons* a replicable agricultural development program for increasing farm production and income particularly among lower income farmers in the rainfed agricultural zones." It intends to establish adaptive agricultural research and extension programs which are readily accessible and responsive to the needs of poor farmers.

2. THE NATURE OF U.S. ASSISTANCE

U.S.A.I.D. funds assist principally in providing technical assistance, training for farmers and extension personnel; intensified Cooperating Country support in the target areas; required construction and equipment purchases; and water resources development, land/soil modifications, surveys, mapping, research and demonstrations. Total project cost:

USAID Loan	\$6,300,000
USAID Grant	\$3,700,000
RTG (MOAC)	\$4,900,000
DTEC (CF)	<u>\$ 825,000</u>
TOTAL	\$15,725,000

3. PURPOSE OF THE EVALUATION

The purpose of this mid-term joint Thai/USAID evaluation is to provide project management with recommendations for enhancing Project effectiveness and making mid-course corrections in strategies, processes and plans so that the chances of project success are increased. The evaluation occurs at a point where desired agricultural program innovations have been initiated and begun to function. The scope of the evaluation is to examine those innovations and assess their probable impacts, including mechanisms and procedures for planning, programming, budgeting, implementing, reporting, monitoring, and evaluating, the managerial, technological and operational dimensions of the

project within their agricultural program context.

4. FINDINGS

The NERAD project has made admirable progress in implementing an admittedly poor design. This has been accomplished through continued self-examination, numerous corrections of deficiencies, and the encouragement of open channels of communication between MOAC departments involved. It remains for these gains to be solidified, for accumulated experience and information to be utilized more effectively, and for all concerned agencies to establish a more unified understanding of the project purpose.

The primary purpose of NERAD is the institutionalization of a replicable system for rainfed agricultural development. Its accomplishment means replication of a system for putting the right combination of technologies in the right location at the right time. It further means that an adequate system for social and economic screening of income - generating activities be firmly in place. Whereas this would not have been possible at the outset of the project, continued improvement in the quality of information available has made such analyses realizable.

Institutionalization and replicability imply learning at a systemic as opposed to an activity level. As is to be expected in projects of this scope, there are many excellent examples of inter-departmental cooperation at the field level while the policy maker level lags behind, a fact which has led to

misunderstandings of the project at all levels. Project managers are well aware of most of the problems and have reached a point where special emphasis should be given to: (1) the need for common understanding of the project purpose; (2) the difficulties inherent in a more meaningful assessment strategy for farmer needs; (3) improving integration of ideas and coordination of activities between researchers and extension agents and site-selection for on-farm research; (4) the efficiency of monitoring and evaluation in relation to project needs. All of these issues are specifically addressed in the recommendations below.

The 6th Five Year Economic and social Development Plan will call for an increase in the number of integrated projects, thus, experience and lessons learned under NERAD, unobtainable elsewhere, are especially important. In this light, NERAD is a proto-type, a foundation for future planning at the national level.

The NERAD approach, albeit complex, holds important potential for rainfed agricultural development in Thailand. It provides, in effect, on-the-job training in Farming Systems Research and Extension, not only in the field, but at ministerial levels. This experience, otherwise unobtainable, is especially valuable in light of the fact that more such integrated projects are anticipated in the forthcoming 5 year plan.

II. MAJOR CONCLUSIONS AND RECOMMENDATIONS

The NERAD project is very broad both in terms of the number of departments involved and in terms of the diversity of geographic and ethnographic area covered. Due largely to this initial breadth of scope, the project experienced some early "growing pains." Many of these early problems have been overcome, with the upshot that the project as a whole is beneficial and should be continued. There are, however, areas where further improvement could be made.

OVERALL OBSERVATION

A lack of mutual understanding as to what is really a main theme of the project has resulted in a shift of emphasis. Activities to be coordinated are regarded as more important than the project concept. As a consequence, integration of ideas and institutionalization of the project concept do not receive adequate attention. The organizational structure for the project implementation is also a constraint to the institutionalization of the concept and lessons learned into the line departments of the MOAC. It is therefore recommended that:

1. The Farming Systems Working Group should be activated and assigned to look into the information pertaining to the project concept and the information obtained be utilized for the project planning, implementation and reorientation purposes.

2. The committee on NERAD should appoint a NERAD Policy Committee to be chaired by the Deputy Under-Secretary of the MOAC and composed of the Deputy Directors-Generals of the cooperating departments of the MOAC as members and Project Director as Secretary to help facilitate the institutionalization of the project concept into the line departments.
3. The project management should improve materials in a farming systems context by utilizing the information, knowledge and lessons learned from project implementation for training purposes.
4. The project management should develop and implement a management system which involves increased farmer and villager involvement in the management of project activities.
5. The Office of Agricultural Economics should not perform project monitoring function. Rather it should act as an arm of the NERAD Policy Committee, periodically analyzing the project as a whole, with emphasis on interactions within and among activities, in order to assess (implementation) progress towards achieving project purposes. The Office of Agricultural Economics should provide economic portion of analyses of specific activities before and during

implementation under the guidance of the Farming Systems Working Group or other pertinent Working Groups.

PROJECT IMPLEMENTATION

1. Coordination among implementing departments has increased, especially between DOA and DOAE. Every effort should be made to facilitate and encourage further inter-departmental coordination at all levels.
2. The wide geographic scope of the NERAD project strained the ability of the limited management cadre, particularly during the early years of project implementation. It is recommended that no changes in geographic scope are necessary.
3. A project newsletter designed specifically for distribution at the village level should be implemented to add a written dimension to the (until now) strictly oral communication between farmers and project implementers.
4. Pre-implementation briefings for farmers describing proposed projects using visual aids (slides) and explaining villager inputs to projects should be encouraged.
5. All major project documents should be translated into Thai/English (including this evaluation report in its entirety). In addition, a periodically updated bilingual

annotated list of project publications should be made available to project staff at all levels.

6. At the start of each fiscal year the monthly salaries of many temporary employees (non-civil service) are delayed for up to several months. A special revolving fund should be set up at Tha Phra to insure that all workers receive their pay on time.
7. The amount of transportation available to each agency should be reviewed and additional vehicles provided as needed. A small expense for a few more trucks can pay big dividends in terms of accomplishment of overall project goals.
8. NERAD attempts to put the right project in the right place at the right time to achieve the project's overall poverty alleviation and institutional development goals; the fact that a specific technology may be duplicated elsewhere in the national RIG program does not in and of itself negate the value of that technology to the project.
9. As a primary objective of the NERAD project is that of institutional development of agencies at the national, regional as well as local levels, activity benefit/cost analyses which are based only on households in the project areas or principal villages are of minimal value.

TECHNOLOGY DEVELOPMENT

1. Review all project activities. Consider discontinuing those activities or sub-activities which neither contribute to institutional development, advance interdepartmental coordination nor require villagers to make significant contributions to the project activity.
2. The Cooperatives Promotion Department has developed a novel approach to introducing farmers to cooperatives/farmers' groups by providing groups of 50 farmers (rather than the customary 300) a temporary "starter" revolving fund of 70,000 baht per group. This potentially very effective approach should be encouraged in other geographic areas after the end of the NERAD project by allowing the CPD continued use of the NERAD provided revolving fund money on a permanent basis.
3. Farmer training has been generally of a high quality, with a good balance of classroom and "hands on" training. However, follow up of that training has been inadequate due primarily to manpower limitations. Follow up on training should be increased even if it means reducing the quantity of farmer training provided.
4. The study tour program gives an excellent opportunity for NERAD villagers to learn the proper and appropriate farming practices which have been proved to be successful. It is

one of the most effective processes for a transfer of appropriate technology. Further enhancement of this activity is advisable.

5. It is strongly suggested that in the remaining period of the NERAD project, the cropping system program should emphasize its work more on component technology, which is still within the Farming System Approach for monoculture of the main crops and also on solving soil problems. Special consideration has to be made regarding site selection for on-farm trials and also farmer participation.
6. The program should also make use of recognized institutions in the region in conducting sophisticated research. It is advisable that the trials should be conducted in the farmer's field if possible. The research on soil problems could be facilitated with assistance and involvement of staff from the Department of Land Development and DOA.
7. Farm record keeping (240 households) uses a disproportionate share of OAE project resources. Farm planning, the stated purpose of farm record keeping, should be simplified and based on the data already collected. Resources could then be used instead to analyze (not just summarize) the farm data and as well as analyze other project activities.

SOCIAL SCIENCE PERSPECTIVE

1. NERAD project personnel are aware of socio-cultural difficulties, but no single individual has the academic background to obtain all of the relevant information at the village level.

It is proposed that a cultural or ecological anthropologist, familiar with Northeast Thailand, be added to the Technical Assistance team for the remainder of the project. His or her duties would involve, but not be limited to:

- a. Obtaining ethnographic information from project villages that will ensure inclusion of villager thinking in planning and implementation.
- b. Assist in the development of improved Needs Assessment techniques for the Tambol Councils.
- c. The design of improved Needs Assessment techniques for the RAT teams.
- d. The design of an improved monitoring and evaluation system that emphasizes information from the village level.

2. It is also recommended that expertise from local educational institutions in such areas as Isan Worldview, Indigenous Knowledge Systems, and Ethnoscience be included in Needs Assessment and information gathering. (The Isan Documentation Center in Mahasarakham, for example, is an underutilized educational resource.) The inclusion of this expertise and information not only assists learning by NERAD, but also assists institutionalization of NERAD development ideas through the interaction.

 3. When the first two recommendations have been adopted, it remains for the system of technology development to be carried out with a solid social foundation. True on-farm trials and demonstrations, if they are to represent villager needs, must include knowledge of the villagers' history, knowledge system, and agricultural experience. It is recommended, as one more step towards institutionalization, that the IKS (Indigenous Knowledge System) approach currently being developed by DOAE be incorporated into NERAD. The activity of farm record keeping could easily be adapted to assist in the understanding and interpretation of farmer behavior with very little additional training of Kaset Tambol agents.
- These recommendations represent a three-pronged mutually supportive approach to the inclusion of increased villager participation in NERAD, and the institutionalization of the NERAD development approach in the form of:

1. Technical Assistance
2. Local Educational Institution
3. RTG Institution

NERAD is the ideal proving grounds for the inclusion of this approach, the timing is right, and the project and institutions are receptive.

III. THE NERAD PROJECT CONTEXT

A. BACKGROUND AND PURPOSE OF THE PRESENT PROJECT

The Northeastern Region of Thailand has among the poorest soils in Southeast Asia and most erratic rainfall patterns. Under optimum conditions less than twenty percent of the arable land can potentially be irrigated by conventional medium- or large-scale irrigation projects. Thus it is no surprise that the majority of the farmers of the NE are subsistence-oriented, rainfed rice farmers -- the poorest in the Kingdom. Their farming systems include: some field or vegetable crops in a fraction of paddy land before and/or after rice production; upland fields planted in cassava or kenaf; two or three head of cattle and buffalo along with a few chickens; fishing and hunting-gathering activities which supplement diets and lifestyles; some cottage industry; and off-farm employment. To address these conditions most of the technology developed by the national agricultural program of the Ministry of Agriculture and Cooperatives (MOAC) have either been commodity- or discipline-oriented under the relatively protected conditions of the departmental experiment stations. In this technology development process the linkages between research and extension have also been very tenuous.

The Northeast Rainfed Agricultural Development (NERAD) Project is an effort by the MOAC to begin to address this gap in the

development and delivery of technology to NE rainfed subsistence farmers. The purpose of the Project, as stated in the LOAN and GRANT Agreements, is "to develop in eight representative tambons* a replicable agricultural development program for increasing farm production and income particularly among lower income farmers in the rainfed agricultural zones." It intends to establish adaptive agricultural research and extension programs which are readily accessible and responsive to the needs of poor farmers.

There are five interrelated themes of the Project around which the implementation strategy is built:

1. Integration: among and within research and extension programs.
2. Technology development: refers to the collaborative effort between farmers, researchers, and extension to adapt technology through on-farm trials and demonstrations, the FSR/E Approach in NERAD.
3. Implementation: plans iteratively build on lessons learned rather than a blueprint in order to allow the flexibility to be responsive in a timely manner to farmers' needs.
4. Top-down/bottom-up interaction: refers to the process of articulating rainfed farmers' problems and needs by means of the tambon planning process and matching the MOAC's technology and resources with it.

5. Institutional development: refers to enhancing the capacity of the participating MOAC departments to deliver more effective agricultural research and extension services.

The NERAD strategy has two focal points, which are permeated by the five previously mentioned themes:

- * Farmers' capacity: both individually and as members of the community, to confidently and effectively manage their resources. This process begins with the tambon planning through the implementation of the various activities.
- * MOAC departments' capacity: to develop problem-solving, adaptive research and extension programs to develop and deliver appropriate and relevant technologies which are responsive to rainfed farmers' needs and readily accessible to them.

The FSR/E Approach is a framework by which NERAD better analyzes and improves these capacities by strengthening the systems closest to farmers and the organizational and policy context to support this.

The PP expressly states that "strengthening local institutions and human resources to deal with local problems" is a key concept of the strategy. Not only are local leaders to be assisted in

assessing their needs, constraints, and subsequent development plans, but MOAC personnel need to gain experience through the Project in implementing activities to solve area specific problems. So the participation is a reciprocal process whereby both the farmers and the government agencies benefit.

B. PURPOSE AND METHODOLOGY OF EVALUATION

PURPOSE. The purpose of this mid-term joint Thai/USAID evaluation is to provide project management with recommendations for enhancing Project effectiveness and making mid-course corrections in strategies, processes and plans so that the chances of Project success are increased. The evaluation occurs at a point where desired agricultural program innovations have been initiated and begun to function. The scope of the evaluation is to examine those innovations and assess their probable impacts, including mechanisms and procedures for planning, programming, budgeting, implementing, reporting, monitoring, and evaluating the managerial, technological and operational dimensions of the project within their agricultural program context.

METHODOLOGY. The methodology used by the evaluation team included obtaining information from three primary sources in preparation of this evaluation: written documents, interviews and observations. The team reviewed pertinent project documents, e.g., Project Paper, Handbook of the NERAD Tambons, etc., as well as various reports written by RTG officials, short term

consultants, auditors and others. As all evaluation team members were bi-lingual in Thai and English, the fact that many documents were either only in Thai or only in English did not pose a problem.

In addition the team interviewed a long list of persons with knowledge of the project. (See Annex B for a complete list of persons interviewed.) The team interviewed government officials, both Thai and American, at all levels and in each of the project areas plus Khon Kaen and Bangkok. Villagers in the project Tambons (including kamnans, village headmen, farmer leaders and "ordinary" farmers) were interviewed at length. In addition, the team sought out and interviewed individuals who had had a connection with the project in its early stages but who were no longer directly connected with NERAD. Interviews were conducted using either semi-structured or unstructured interview techniques as appropriate.

Finally, the team visited each of the nine project tambons and a large number of the project villages to observe first hand examples of each of the various types of project activities. A complete list of sites visited is included in Annex B of this report.

The team was aided greatly by Thai government officials who travelled with the team to all sites. These officials provided valuable insights to the evaluation team on the nature of the NERAD project.

IV. DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The discussion of findings, conclusions and recommendations is the collective opinion of the evaluation team. For purposes of clarity and to facilitate understanding of the team's findings, the report has been divided into four broad categories. Overall Observations (points which reflect on the overall project as a process); Project Implementation, Technology Development and Social Science Perspectives. Within the format of these four broad categories each of the questions outlined in the scope of work has been addressed.

A. OVERALL OBSERVATIONS

GOALS OF PROJECT/LOGFRAME

One comment frequently heard by the evaluation team was that the NERAD project was "hard to get a handle on" or words to that effect. One reason appeared to be that the underlying goal of the project was not clearly and uniformly understood by all persons involved with the project. The problem was exacerbated by each of the agencies involved seeing to interpret the project goal in terms of their own departmental objectives.

Also contributing to problems in achievement of purpose was the project Logframe. As written the Logframe, which is supposed to clearly define the project's goals, is too vague to be of much

use. Many of the Objectively Verifiable Indicators are not objectively verifiable.

It is recommended that a new Logframe be prepared by representatives of the various implementing departments. Preparation of the new Logframe should be preceded by development of a Problem Tree, which would clearly delineate the interrelationships between problems in the project area. This process will clarify thinking, particularly regarding departmental interdependence in project implementation.

LACK OF A MUTUAL UNDERSTANDING OF THE NATURE OF THE PROJECT

This lack of understanding manifested itself at all levels of the cooperating departments and agencies. Although the PP is a confusing document as described by many people at all levels involved with the project, it seems clear that what the project is intended to do to achieve its purposes is "to initiate a process which will ameliorate the major agricultural constraints in rainfed areas...in a systematic manner." Anticipating the difficulties of implementing this kind of concept, the PP also indicated that "considerable flexibility will be required in the implementation of this type of project in order to assure the suitability of Project activities to local circumstances. Therefore, rather than develop even illustrative detailed tambon implementation plans which would have a tendency to pre-empt the cooperative resolution of local problems, NERAD Project design

activities have focused on defining the range of local resources, the range of available promising technology and a system and procedures for implementing project activities." The PP also indicated that the concept of farming systems research and extension will be used in dealing the agricultural problems of the rainfed farmers.

In actual implementation in the beginning, the above guidelines have been at least partly the result of a project design which must meet both RTG and USAID conditions, and partly the result of the lack of common understanding of the main emphasis of the project. It is not surprising that cooperating departments and agencies took activities with budgets already specified as their main concerns. Thus, the project is not seen as introducing new concepts to deal with farmers' problems but only as coordinating activities of the departments involved with more resources given to them. Now however, more information which can help to make the concept better understood is available from the initial stages of project implementation. Therefore, it is recommended that a series of workshops be organized to overcome the problem of understanding of the concept of the project in order to achieve the purposes of the project.

LACK OF INTEGRATION AT THE PROJECT LEVEL

The project management always stresses the main strategies of project implementation as integration and responsiveness by using the concept of farming systems research and extension (FSR/E).

Before dealing with the above issue, the FSR/E concept needs some explanation. Briefly speaking, it is a method of analysing the problems and identifying the needs of the farmers as viewed from the farmers' holistic perspective. It focuses on interactions or interdependencies among activities or components of farming systems at various levels. Unless these key interactions can be identified, the farming systems cannot be managed and manipulated. The method is also useful in identifying the key constraints of farming systems development. If these key constraints and interactions are identified a small change can have a greater impact than a big one. The method also requires an interdisciplinary approach which means that an integration of ideas and disciplinary perspectives is a must. Unless the concept is clearly understood by the people working with the project and key constraints and interactions can be identified, the activities introduced will not meet the real needs of farmers. Integration does not mean a coordination of activities. Appropriate activities can be coordinated only after key constraints and interactions among the components of the farming systems have been identified. The idea of introducing so-called "core activities" in the principal village is the antithesis of the FSR/E concept in the first place. While the integration of ideas and the coordination of activities at the field level among the cooperating departments and agencies have been noticeably improved, not enough effort is given to looking at the relationships among the activities at the project level. This is due in part to the fact that activities are compartmentalized

among the working groups and in part to the lack of common understanding of the concept. Interactions among the activities, with the exception of fish and rice, and cowpea and rice in the rice field at the farm level, are thus overlooked and are not used for the project planning and implementation. As mentioned above, these interactions must be identified if the systems are to be managed and manipulated. For example, in Srisaket and Roi-Et there is a strong interaction between fish and crops at the village level but less so in Chalyaphum and Nakorn Phanom. The project management has a mechanism to deal with this issue but it is not being effectively utilized. It is therefore recommended that the farming systems working group (already planned) be activated and assigned to look into this area and that the information obtained be utilized for project planning, implementation and reorientation purposes.

CONSTRAINTS TO INSTITUTIONALIZATION OF THE PROJECT APPROACH

Replication or, in other words, institutionalization, is another concern of the project. Since there is so much diversity of environments - physical, economic, social and cultural - within which Northeast farmers operate, opportunity for transfer of successful technologies from one environment to another environment is quite limited. The project management should concern itself more with the institutionalization of the project process of dealing with agricultural problems than with the replication of activities. It is believed that by institutionalizing this process into line departments and

agencies of the MOAC, the concept will be sustained even after the project ends. However, the present project organizational structure and system of implementation inhibits the institutionalization of the concept into the line departments and agencies of MOAC. The systems and procedures that were established to implement the project are as follows:

Committee on N.E. Rainfed Agricultural Development

NERAD Subcommittee on Coordination

Project Management Center - Technical Assistance Team

Field Manager - NERAD Provincial Subcommittee

- Provincial Subcommittee Executive Group

- Tambon Council

In addition, several working groups were established. These working groups are Farming Systems, Cropping Systems, Village Water Resources Management, Village Common Lands Management, Marketing and Economic Analysis, and Pest Management. These committees, subcommittees, and working groups were set up mainly to facilitate administrative and technical cooperation and to coordinate the activities of the project at all levels. Although the Committee on NERAD has a function to set policy, its infrequent scheduled meetings make it impractical for dealing with policy issues such as institutionalization of the concept of the NERAD project. Now that there have been many lessons learned from the implementation of the project since its beginning; adequate effort must be given to passing these lessons learned to

line departments and agencies involved in the project. While the officials from these line departments and agencies working in the field appreciate the process or concept of the project because they are receiving on the job training by the nature of the project, they are not in a position to institutionalize this concept into their own departments and agencies. A high level committee dealing specially with policy issues is called for. It is believed that if the concept of the project is accepted by the line departments and agencies of the MOAC, it will help reduce the duplication of effort and increase the degree of responsiveness to the real needs of the farmers. Therefore, it is recommended that the Committee on NERAD appoint a NERAD Policy Committee to be chaired by the Deputy Under-Secretary of the MOAC and composed of the Deputy Directors-General of the Cooperating departments of the MOAC as members and Project Director as Secretary. This committee should have meetings every two months.

LACK OF INFORMATION FOR OVERALL PROJECT MANAGEMENT DECISION-MAKING

There is no question that a large amount of data has been generated by project implemented activities. However, these data are not useful for the over-all project management decision-making. Mini-evaluations are confined only to activities and the Office of Agricultural Economics is responsible for them. Since the activities of the OAE under the NERAD project do not interact with other elements of the farming systems of the farmers, there

is no reason why the OAE should be part of project management. It is believed that if the evaluations are undertaken independently without project management involvement, they will have more objectivity and weight for project management decision-making. The OAE should be an arm of the Committee on NERAD or the proposed NERAD Policy Committee and be given a responsibility for periodic evaluation of the overall project implementation and direction. Therefore, it is recommended that the OAE be excluded from the project management and assigned responsibility as described.

LACK OF VILLAGER'S INVOLVEMENT IN SOME OF THE PROJECT ACTIVITIES

Among the activities of the cooperating departments and agencies, beside that of the OAE, the activities of the Royal Forestry Department do not involve the villagers to any extent except at the planning stage. In other words, the villagers for whom these activities are provided, of course with good intentions, do not have any role to play in the management of these activities at present. They are only onlookers wondering what is going to happen to these activities. Unless the villagers, especially the farmers, are well aware of their role in the management of these activities, the interactions of these activities with other elements of the farming systems at the farm level as well as at the village level cannot be assessed. The officials of the RFD in charge of these activities are from the central office. The local RFD officials do not have the responsibility. To have the officials from the central office involved in the implementation

at the field level in one sense is good because they have direct contact with high level officials in the departments and agencies who have influence over policy matters. But in another sense, these officials are less sensitive to villagers' concerns. Thus, when asked about the above questions, these officials had never thought about it. Since these activities are provided within the farming systems context, they will have a negative impact on the project approach if there is no villager involvement. It is therefore recommended that the project management develop and implement a management system in which villagers have a definite role to play.

INADEQUATE ATTENTION GIVEN TO THE OVERALL PROJECT GOALS

While support and attention given to activities and working groups are good and probably consume a good deal of project management and the technical assistance team time, little attention is given to project goals at the project level. With too many activities, it is not surprising that, in most cases, activities and objectives of the activities overshadow the main emphasis of the project. Since there is now enough evidence to support the concept which the project is trying to introduce, the project management and the technical assistance team should pay more attention to it and capitalize on it. The knowledge and experience gained from this type of project implementation will put the project management center at the forefront of this concept and it could become a center for training and support of

the activities of the DOA (particularly the FSRI) and the DOAE even after the project ends. It is therefore recommended that the project management and the technical assistance team develop materials which utilize the knowledge and experience gained both in a farming systems context and in a series of workshops as previously recommended.

CONCLUSION

By its very nature, the NERAD project provides a forum for on-the-job training of the concept of the farming systems research and extension for those participating in the project at every level. However, to what extent these officials learn and understand the true meaning of the concept depends to a great extent on how the project is implemented. Compartmentalization of activities, out of necessity but without proper synthesis, may have negative effects on those involved in the project. Achievement of the NERAD project from its implementation to date has happened only at the activity level and to some extent at the working group level. There are problems and constraints, some of which the project management, the technical assistance team and the project officer are aware of, to the NERAD project achieving its main objective of institutionalizing a process of dealing with the agricultural development problems of the rainfed farmers into the line participating departments and agencies supplementing; their present strategy and procedures of implementation. Unless these problems and constraints are overcome, it is very unlikely that the project will achieve its

main emphasis. However, the project management is now in a much better position than before to develop strategy and procedures to deal with the problem of institutionalization and integration to ensure the achievement of its objective during the remaining period of the project.

B. PROJECT IMPLEMENTATION

NERAD attempts to put the right project in the right place at the right time to achieve the projects' overall poverty alleviation and institutional development goals. In some instances that involves technologies which already exist in other RTG programs. However, the fact that a specific technology may be duplicated elsewhere in the national RTG program does not in and of itself negate the value of that technology to the NERAD project. Also, as a primary objective of the NERAD project is institutional development of Thai government officials at the national and regional as well as local levels, activity benefit/cost analyses which are based only on households in the project areas or principal villages are of minimal value.

COORDINATION OF ACTIVITIES

Integration and coordination both within and among Thai government agencies has been given, very appropriately, significant attention by the project staff. Interdepartmental integration/coordination is particularly difficult as significant

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gains can be achieved only with departmental support at the policy making level.

Particularly noteworthy is the increased coordination between DOA and DOAE which has resulted due to the NERAD project. For example, in January 1985, a meeting between representatives of the two departments resulted in revised (and much improved) plans for DOA field trials. If this coordination between the two departments can be implemented at the Planning Division level, the results should truly have far reaching and highly beneficial consequences.

The possible beginning of increased coordination between DLD and DOF evidenced vis-a-vis construction of ponds and swamp rehabilitation. The late entry of DOF into the NERAD project is in part responsible for the initial lack of coordination. Such increased coordination would result in multi-use ponds which provide more total benefit to farmers. However, as with DOA and DOAE, this increased coordination must begin at the policy making level.

GEOGRAPHIC

The NERAD project is very complex both in terms of subject matter/departments involved and also in terms of geography. Had the project at first limited the geographic scope to a single tambon or two then the management might have had additional time

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to "work the bugs out" of the desired system of interdepartmental - coordination. By beginning the project in many diverse areas at once, the limited time of projects management personnel was of necessity spent in fighting brush fire problems on many fronts and thus had less opportunity to insure that overall project goals were met.

IMPROVEMENT OF SERVICES RECEIVED

The Scope of Work of the evaluation team asks whether services received by the target beneficiaries will be significantly improved because of this project. In the opinion of the evaluation team, services received by the target beneficiaries will be improved. But what is more important, northeast farmers outside the project area will also significantly benefit from this project in many ways. First, they will benefit in terms of improved overall government services due to the increased integration/coordination among departments which is occurring because of the project. Second, they will benefit from the spread of specific project promoted technologies, e.g., raising fish in rice fields, using green manure, etc.

IMPLEMENTER/VILLAGER COMMUNICATION

Communication between project implementers and villagers regarding project activities is almost exclusively oral. Adding a written dimension to project implementer/farmer communication would have several beneficial effects including increasing the

amount of project related information received and retained by farmers and showing farmers the value of written communication. This would encourage them to read other documents, e.g., labels on pesticide products, pamphlets on cropping/livestock production, etc.

In this regard, a project newsletter should be produced at the province level on a monthly basis. The newsletter should include details on:

- training to be held in the future,
- training recently completed including a list of attendees,
- test/trial/demonstration plot activities (what, where, when, results, etc.)
- other information as appropriate.

VILLAGE LEVEL BRIEFINGS

The briefings provided by several Departments to farmers in villages where projects are proposed is excellent. Key elements of the briefings include: an accurate description of potential benefits and villager inputs required; slides of similar projects in other areas; a department official to present the briefing who is able to talk to farmers as an equal rather than as a superior. In addition, informing amphoe and tambon level agricultural extension agents of the briefing in advance encourages interdepartmental cooperation. This style of pre-implementation

briefing using visual aid and explaining villager inputs to the project should be encouraged.

TRANSLATION OF PROJECT DOCUMENTS

Many project documents are available only in Thai or only in English. Even the Thai Project Paper is abbreviated version of the English. The comprehensive overview of the project area, Handbook of the NERAD Tambons is available in English only (although it was written by Thais). This has created an "information gap" regarding the project.

The evaluation team suggests that if a document is worth writing, it is worth translating. Translation costs are only a small fraction of total project costs. The need for translated documents is exacerbated by the rapid turnover of personnel who work with the project. This rapid turnover results in staff, especially lower level staff, receiving only "oral tradition" reports of the project details. The new staff members don't have available to them the necessary documents written in their own language and so must rely on word of mouth from other officials. Even senior Thai officials with a good command of English would be more likely to read a project document if it were written in Thai. To help overcome this knowledge gap it is recommended that all major project documents be made available in both Thai and English. In addition, a periodically updated bilingual annotated list of project publications should be made available to project staff at all levels. It is further recommended that the mid term

project evaluation be translated into Thai in its entirety, not just the major conclusions and recommendations and the executive summary.

COMPENSATION OF NON-CIVIL SERVICE STAFF

Payment of basic compensation of non-civil service project staff needs to be improved. All non-civil service contracts are up for renewal in October each year. Officials processing these renewal employment contracts sometimes wait until all renewals from a given area are received before processing any. This results in delays in receipt of salary by many lower grade employees, those least able to easily accomodate a delay in their monthly pay. It is suggested that the project establish a revolving fund at NEROAC to advance salary payment to these workers whose salaries are late arriving for administrative reasons.

TRANSPORTATION

One relatively minor shortcoming is significantly reducing the potential benefits of the NERAD project: lack of adequate transportation. Nearly all departments reported an insufficiency of transportation at the field level. The availability of transportation should be investigated and additional vehicles provided as necessary. A few additional vehicles would constitute a very small fraction of project costs yet could expand the outreach of the project greatly. One alternative

would be to have the project provide additional vehicles to a department if the department concerned were willing to provide fuel and maintenance.

C. TECHNOLOGY DEVELOPMENT

VILLAGER PARTICIPATION

In the time allowed to the evaluation, it is not possible to review all project activities in detail and make specific recommendations on each. One possible approach to follow is to stress those activities to which villagers are willing to contribute (money, labor, time and/or other inputs). Project activities which border on outright charity should be either modified to include some form of villager input or discontinued. Comments on a few selected project activities follows:

- = Shallow wells and modified shallow wells were found to be the most useful water resource activity and to be in great demand by villagers, particularly in Roi-Et and Sri Saket. An expansion of this activity is strongly recommended. This activity involved considerable villager/recipient input of labor. This level of recipient input could be increased by providing the village with forms to make their own rings. This would help farmers to continue to build wells even when project funds cease.

- = Land shaping is relatively expensive, use no villager/recipient inputs and benefits only the individual whose field is levelled. If this activity is to continue a financial input from the recipient should be required, e.g., at least the cost of fuel and oil for the tractor.

- = Pond construction and swamp rehabilitation were high cost activities with virtually no villager participation other than a limited role in planning. Benefits of these activities generally occurred only to those few households which owned land near the pond. Any future ponds should be constructed to allow fish farming, an activity from which all villagers could benefit.

- = The high cost sericulture rearing room technology promoted by the project (6,000 Baht per unit) is unlikely to be adopted by farmers who have to invest their own money. A modified rearing room made of plastic net (500 - 600 Baht per unit) used by some farmers in the project area should be promoted.

- = A village veterinarian/medicine seller program was to be implemented to replace the free medicines given under the project. This should be started at first in one or two areas to develop the methodology before the program is implemented in all project areas. The

"start slow" approach is particularly important as the low level of DOLD manpower available at the field level would be hard pressed to closely monitor such a complex program in nine or more locations.

= Fish raising projects both in public ponds and rice fields include village inputs of labor and achieve benefits on several levels: they increase villager protein intake, plus, in the case of public ponds, increase the village's spirit of camaraderie and cohesiveness. Fish in rice fields have the added benefit of increasing rice yields. This activity could be further enhanced if villagers were trained in fish processing (drying, smoking, salting, etc.). That would allow villagers to enjoy fish protein over a longer period than the one "fish day" each year.

= RFD public land woodlots involve little or no villager participation. The means by which the woodlot yields will be divided among villagers has yet to be determined. (In fact, the legality of villagers cutting trees on public lands is still in question.) Until utilization plans can be more precisely developed, public land woodlots should not be subsidized by NERAD. These problems are not encountered in those instances where RFD provided seedlings for villagers to plant on private land.

= RFD range management use expensive barbed wire fences strung on purchased wooden posts to keep out intruding animals. Farmers in many of the project areas achieve the same result by planting living fences of Jatropha cureas Lins. (sabu dam) or Leucaena spp.

All project activities should be reviewed. Consider discontinuing those activities or sub-activities which neither contribute to institutional development, advance inter-departmental coordination nor require villagers to make significant contributions to the project activity.

COOPERATIVES (FARMERS' GROUPS)

The agricultural cooperatives in Thailand are usually established at the amphoe level with a minimum of 300 members. This relatively wide geographic area encompassed by the co-op and the large number of members virtually guarantees that not all co-op members will know one another on a personal basis. This is a difficult situation as by their very nature co-ops are based on trust - trust in the honesty and integrity of fellow members. Villagers are frequently reluctant to trust their limited resources to a co-op under these circumstances. In addition, the administrative ability required to operate such a large organization is considerable.

The Department of Cooperatives Promotion, has developed a novel solution to the above problems. Rather than 300 members, under

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NERAD farmers' groups (co-op precursors) are established with only 50 members. Rather than being amphoe wide, the farmers' groups each encompass only one or two villages in the same Tambon. The project provides each new farmers' group seed money (a temporary loan of 70,000 Baht) for a revolving fund and teaches group members the basics of how to operate a farmers group or coop. Activities the first year in the new farmers' groups were generally limited to purchase of fertilizer. The number of activities is planned to expand in subsequent years as the interests and abilities of the members dictate. Thus this unique approach allows farmers to learn on a local scale how to operate a farmers' group/co-op, while dealing with individuals they know personally. In future years these small farmers' groups will likely merge into larger farmers' groups or co-ops - because they began at first on a scale that the farmers could adjust to. To allow this excellent system to continue to operate and expand geographically after the end of NERAD, the money allocated to CPD for farmers' groups revolving funds should be allowed to remain with the CPD indefinitely.

TRAINING PROGRAMS AND TECHNOLOGY TRANSFER

The NERAD project offered training programs in various disciplines to specialist farmers and officers. This activity is of great benefit to villagers for improving their farm productivity. This is an effective means for technology transfer and also is one of activity that was appreciated by villagers.

The NERAD program also provided study tours for NERAD farmers to observe farming methods that are successfully practiced in other area. The study tour gives an excellent opportunity for NERAD farmers to learn the proper and appropriate farming practices which were proved to be successful. Furthermore, it provides an atmosphere for fruitful discussion among NERAD farmers and farmers in the visiting sites. Through this process NERAD farmers could gain more confidence in adopting such technologies. This is one of the most effective method for a transfer of appropriate technology. The evaluation team viewed this as an extremely useful activity. (The expansion of study tour activity is, therefore, advisable.)

The farmer training itself was in general quite satisfactory with a good balance of classroom instruction and hands-on practice. However, full benefit of the training process was not realized due to lack of follow-up. Due, in part, to limited manpower, agencies were not able to follow up on training as they would have liked to, e.g., to insure by direct observation that farmers really understood what they were taught and to answer any remaining technical questions the farmers might have. A few farmers who receive good training and good training follow up can teach other farmers. Many farmers, each partially trained, will likely miss some key element and fail to achieve desired results - and they will blame the method (rather than the training) for the failure.

TECHNOLOGY DEVELOPMENT RESEARCH

In the past most technologies recommended for Thai farmers have been derived from field study conducted at research stations. The same technology is commonly recommended to be used for all locations even though they differ greatly in both climatic conditions and soil characteristics. It is thus often found that the rate of adoption of such technologies by farmers is essentially low. Furthermore, demonstration plots performed by extension agents based on findings from research stations commonly failed to show superiority to farmers' practices. This is mainly due to the fact that technologies being generated by that process are not appropriate technologies. Appropriate technologies which could be adopted by farmers are location specific. This appropriate technology is identified through on-farm research activity. The NERAD project in doing on-farm research and extension demonstration is, therefore, using an effective approach to generating an appropriate technology for farmer adoption. This approach also allows researchers from the Department of Agriculture (DOA) and extension agents from the Department of Agricultural Extension (DOAE) to work together in farmers' fields along with farmers. Through this process, farmers' problems are recognized by researchers and extension agents and serve as feedback information to formulate an effective cropping research program aiming at solving farmers' problems.

RESEARCHER-EXTENSIONIST AGENT COORDINATION

The evaluation team observed coordination between officers from the two departments in doing on-farm cropping system activity. This coordination continues to improve each year. However, it was recognized by the evaluation team that regardless of their positive attitudes regarding coordinated work, they did not fully understand the ways and means of coordination. This defect has to be improved in order that the cropping system of NERAD be undertaken effectively. It is suggested that the office of project management center at Tha Phra should arrange more frequent meetings stressing the concept of the NERAD cropping system and means of coordination between researchers extension agents. This type of meeting should be provided not only for the field workers but also for the higher level officers.

ON-FARM AND DEMONSTRATION TRIALS

The NERAD cropping system program has conducted a number of on-farm and demonstration trials in the last 3 1/2 years both on cropping patterns and on component technologies. The workers in on-farm activities really work hard. A number of rice varietal trials were planted in 1982. During 1983 and 1984 the program emphasized cropping pattern studies. Superimposed treatments were added in cropping pattern trials in 1985 in order to gain information on component technology for monocrop culture. Pest management trials were also conducted in 1985.

The on-farm activities of NERAD cropping system program in past 3 1/2 years were able to identify a number of appropriate cropping patterns for the target areas including the following:

<u>Area</u>	<u>Cropping Pattern</u>
a) Chaiyaphum	Cuban kenaf - rice
b) Roi Et	
1) lower paddy	Cuban kenaf - rice
ii) upper paddy	Thai kenaf - rice cowpea (green manure) - rice
c) Nakhorn Phanom	Jute - watermelon Peanut - watermelon Kenaf - watermelon
d) Sri Saket	Yard long bean - rice Cowpea (green manure) - rice

A number of promising cropping patterns were also identified and will be further verified for confirmation. The rice direct seeding technique introduced by the program to overcome the problem of drought in rice production in a dry climate is also promising. In addition, percentage of farmer adoption of the released rice variety was also increased greatly during the project implementation period.

Cropping systems are complex and dynamic. Appropriate technology could be changed over time depending upon many factors such as farmers' income, prices of inputs and outputs, marketing net work and input availability. The degree of sustainability of cropping systems varies, however, depending upon the type of technology

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being adopted. Technology regarding to monocropping will not change much over time. Cropping pattern practices dealing with growing more than one crop a year could be changed back and forth according to crop prices as well as the marketing system.

The main issue in relation to sustainment of technology is to make a process of on-farm activity, involving DOA - DOAE coordination, an on-going activity. If this process is sustainable, the generation of an appropriate technology would be automatically sustained.

The NERAD project has proved that the stated process is effective in an appropriate technology generation. The resource at DOA and DOAE appear to be adequate to make this approach an on-going program in the Ministry of Agriculture and Cooperatives even though it may not operate at the same magnitude it does in the NERAD project. To be successful this activity is, however, in a need of definite policy and full support from top rank administrators in both departments.

CROPPING SYSTEM PROGRAM

Since the start of the NERAD project in 1982 up to present time, the cropping system program has modified its implementation plan year by year in order to improve its effectiveness and efficiency. The cropping system program concentrated its work on cropping patterns. Work on component technology for monocrop culture of main and potential crops of the target area such as

rice, kenaf, sesame and peanut were tried only on a limited scale compared to cropping pattern studies. Research concerned with solving soil problems was done to an even lesser extent. These two areas of on-farm researches are extremely important in terms of improving farm productivity and farmers' income in the NERAD project areas.

It is strongly suggested that in the remaining period of the NERAD project, the cropping system program has to emphasize its work more on component technology, still within the Farming System Approach, for monoculture of the main crops and also on solving soil problems. Special consideration has to be made regarding site selection for on-farm trials and also farmer participation.

The program should also make use of recognized institutions in the region, for instance Khon Kaen University, in conducting a sophisticated research problem. It is advisable that the trial should be conducted in the farmer's field if possible. The research on soil problems could be facilitated with assistance and involvement of staff from the Department of Land Development and DOA.

CONSTRAINTS TO TECHNOLOGY ADOPTION

There are many constraints for adoption of new technology. The major agronomic constraints found in the project areas are an

appropriateness of the technology itself and the input availability. The research of this program provided limited information for appropriate technology of monocropping. This is due to the fact that the cropping system research at the initial phase of NERAD program concentrated its activity on identifying cropping patterns. Another major agronomic constraint is input availability. This is evident from paddy fertilizer shortages at Sri Saket province. The 16-16-8 fertilizer which was demanded by farmers was not readily available in the local market. Household cash is a good example of a socio-economic constraints to adopting new technology. This was recognized by the evaluation team during site visits at Sri Saket and Roi Et provinces. Farmers in the NERAD project area are generally poor. To them rice is a subsistent crop rather than cash crop. Therefore, they will grow rice whenever it is possible even in upland areas which are not suitable for rice cultivation and quite often ended up with crop failure. Therefore, the rate of adoption of cropping patterns which exclude rice is relatively low. This is a major cultural constraint.

To improve the effectiveness of the on-farm cropping system research and extension demonstration program, the following actions are suggested:

1. The coordination among DOA and DOAE staffs at various levels needs to be further improved.

2. The research has to be more emphasized on component technological aspects for monocrop culture of main crops and also on soil aspects,
3. The involvement of researchers from the recognized institution in the region and the Department of Land Development is advisable,
4. Activities that should be further expanded are shallow well, training, and farmer study tour, and
5. Pond rehabilitation to be constructed should be designed mainly for fishery purpose.

Farm record keeping (240 households) uses a disproportionate share of OAE project resources. Farm planning, the stated purpose of farm record keeping, should be simplified and based on the data already collected. Resources could then be used instead to analyze (not just summarize) the farm data and as well as analyze other project activities.

D. SOCIAL SCIENCE PERSPECTIVES

The NERAD project, involving as it does a large number of MOHC departments must, by necessity, be concerned with whole systems and all of the ideas implicit in that phrase. The section which follows will discuss the social implications of holism as they

relate directly to agricultural development within NERAD, the bottom-up perspective, and the evaluation scope of work.

1. . BASIC PREMISES

It must be concluded that, in the broadest sense, NERAD has succeeded in motivating the various departments to assist in the carrying out of agricultural development activities. To a greater or lesser extent, depending upon the individual departments involved, they have cooperated, most notably at the field level. This cooperation, however, was not achieved without certain obvious lacunae, among them, that which separates the villager from the various department representatives. The question becomes, how can the situation be rectified.

Probably due to the existence of a Project Paper, NERAD, whether consciously or unconsciously, has been subjected to a kind of artificially induced peloria in its generation of activities which is misleading and, in the development context, unnecessary. This also conflicts dramatically with what is known concerning the importance of diversity and its role in human adaptation in Northeast Thailand. A first step towards correction of the system is an awareness of fundamental premises underlying behavior which has led to this situation.

Complete explication of such premises is beyond the scope of this report, but, the following sets of opposing premises were observed during the evaluation and may serve as illustrative

examples for further attention. Conflicting ideas at this level should be taken into account wherever possible in continued project implementation.

<u>MOAC Department Officials</u>	<u>Isan Villagers</u>
1. Discrete Categories (Departmentalization, Specialization)	Holism
2. Control (Maximization Artificiality)	Coherence (Optimalization Naturalness, Being Part of a whole)
3. Synchronicity (Spacio- Temporal Isolation)	Diachronicity (Social Space and Time Limits to Flexibility)
4. Progress (New must replace old)	Selectivity (Old or New not relevant)

DISCREET CATEGORIES

The Isan villager thinks in terms of wholes as opposed to discreet categories, with the predictable result that "specialists" in agricultural sciences experience difficulty interacting with villagers.- Even the term "farmer," as applied to an Isan villager is of questionable validity.

Heraclitus wrote, "no man into the same river steps twice," which is in fact the premise of holism restated, a strategy for

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survival under unpredictable conditions. One resultant aspect in the villager's agricultural-ecological thinking is that respect (unconscious knowledge) for the system takes precedence over scientific knowledge about that system. It is worth noting that in Chaiyaphum, an old man quoted a passage from the taa haek or 'paddy spirit' ceremony, "please do not be offended by the plowing and planting. We only wish to borrow this land for a short time. After we finish we will return it to you just as we found it." It was found during the evaluation that projects which ignored this respect, even though well-intentioned, generally failed. But it was likewise found that in every NEKAD province, the most successful projects were those grounded in a particular village's history, experience, and knowledge of the activity, or, in other words, activities which have respect for the villager's knowledge.

It is therefore concluded that villagers' ideational systems must be included (even more) in planning and implementation, and that inclusion or exclusion of this information should be noted during monitoring and evaluation.

CONTROL

As a direct result of the premise of discreet categories, maximization of each activity was seen on the primary goal by the majority of department officials. Maximization furthermore presupposes that control of the villager's natural environment is artificially possible. From an ecological perspective this

amounts to nothing less than the kind of hubris that has wrought much disaster elsewhere.

The villager, however, thinks in terms of optima, and his or her values, whether scientific or spiritual, are aimed at being a part of a natural coherent system.

Careful study and learning from villagers would not only enhance understanding, but would allow NERAD personnel to weigh the costs and benefits of various activities as they relate to each other and affect the villagers' standard of living. The ethic of coherence on the part of the villager will effectively delimit sustainability of technologies, appropriateness of technology, and design of technologies for the future.

SYNCHRONICITY

Synchronicity or spacio-temporal isolation as a premise of departmental representatives has led to numerous misunderstandings between villages and officials. Among the comments recorded from department representatives during the evaluation were such as the following,

"farmers aren't busy during the dry season"

"Isan farmers like to take it easy"

"farmers like to get anything free, therefore they never say no"

To anyone familiar with the northeast these comments are nonsense, but frequent departmental shifts have resulted in perpetuation of these and other projections from the outside.

The Isan villager lives in a world of diversity and flexibility, but within carefully defined limits of time and space. His perspective is decidedly diachronic, with each decision based on the long experience and knowledge of many life times. Decisions to work or not to work at any particular time are based on an economics of energy; decisions to accept development assistance are not commitments but rather experiments based on a survival technique of examining all possibilities. But even experimentation must be seen in the light of social space and time.

It was found during the evaluation that villages within short distances of each other evidence great diversity in areas such as personality, conservatism, and receptivity to new ideas. This type of diversity is the source of ecological stability and regional homeostasis, and should not be looked upon as either inherently good or bad. It should rather serve as yet another basis of systematic investigation by the RAT needs assessment team, since this premise negates the possibility of easy generalization and limits the application of new technologies.

PROGRESS

A basic premise that everything new is better than everything old was found to pervade the thinking of many department officials. Frequently, attitudes resulting from this premise led to acceptance of inappropriate technologies and much confusion about daily needs of villagers. Replacement of old by new was considered by many the objective of development and was often pursued with almost missionary zeal, along with a corresponding repetition of slogans (psitticism) and misapplied metaphor (pathetic fallacy). "Adoption" of a new technique by villager is still termed /yom rap/ (lit. 'surrender + receive') and audio-visual aids used by extension agents were called "ammunition."

Another frequent projection is that the villager "does not possess any knowledge," and he is perceived therefore as a blank slate on which all new technology can be introduced without fear of rejection. When rejection does occur he is perceived as "obstinate."

To the villager, this premise makes little sense, as he is neither for nor against old or new. Experience has taught him to be selective, to adapt whatever seems beneficial within the constraints he faces. But more importantly, excessive promotion of newness for its own sake by department representatives (who do not understand local conditions) may result in resentment by villagers as a logical psychological consequence. Credibility

gaps may be widened, and cooperation could become increasingly difficult.

In conclusion, basic premises, such as those touched upon briefly in the evaluation, underly the oft referred to "misunderstandings" by villagers and department officials. It is to NERAD's credit that the project personnel do understand these problems and are doing their best to alleviate them. In fact, improved planning at the level of the Tambol Council is one of the major contribution of NERAD, specifically in increasing the degree of villager participation. There are also examples of department officials in the field becoming more aware of villager needs. (For instance, RFD has begun to provide seedlings to villagers for private use because too little public land is available; DLD, for the same reason has begun planting pasture grass along roads and railways.) But the issues of premises are of a magnitude to warrant special attention to assist the project personnel. In addition to the recommendations below, it remains for NERAD to refine its own basic premises to more effectively deal with differences such as those just mentioned.

2. IMPLICATIONS FOR MID-COURSE CORRECTIONS

Many of the inherent social problems of NERAD were foreseen. The PP, Annex VII pp 14-15 reads as follows:

It is necessary to realize that there are several limitations which may influence the success of the project.

Due to the fact that the project, by nature, is intended to be implemented through the existing social system, no new legislation on land reform, debt relief schemes, etc. are to be built in. Those who have control over greater means of production will be more able to benefit from the project as opposed to those who are landless, small land owners and/or very poor. Moreover, those who are already in heavy debt may hardly be expected to catch up with those who are already better off. On top of that, erratic rainfall cannot be controlled hence farm production may be disastrous in any year, although the project attempts to mitigate the effects of poor rainfall. Finally, marketing which is a crucial factor, is somewhat beyond the direct control of the project. Consequently, farmers may not always receive an appropriate share of the value of their products. Such limitations can be major obstacles and may limit the success of the project especially in those activities involving new or expanded production of perishable produce.

This section of the PP goes on to recommend the employment of a full-time anthropologist "to assess socio-cultural feasibility and degree of benefit to the poor," and to assess contemplated actions, "for their social effects," and "flexibility in component type and mix to allow designing for socially beneficial strategies, in just the same way that technical and environmental feasibility assessment will help design for technically, feasible and environmentally sound strategies."

The implication of the PP here are clear and it is now evident at mid project time that this proposal should have been initiated, both for the reasons cited in the PP paper and those resulting from the evaluation already outlined above.

The role of an anthropologist in the larger NERAD system would be that of an agent to focus on interactions as opposed to components. A system, by definition, is a non-summative network of relationships, but unlike components, relationships are not tangible and are therefore less accessible to examination. An anthropologist, capable of analyzing human communication and information flow in Northeast Thailand, could assist in correcting deficiencies, both in the bottom-up flow of such information, and in the definition and alleviation of communication/information problems in other parts of the system. In this role, the anthropologist could function as the much needed recursive self-correcting aspect of the system, that is, he would provide information about information within the system as a whole.

It is to be remembered that systems think and system learn. Activity failure is not system failure but system learning. In the same way, replicability is systemic, not a feature of activities, and must be learned at a systemic level. The act of generating activities is replicable, not the activities themselves. If the process of meeting needs of villagers in

research projects is to be improved this fact must be internalized.

Finally, it may be useful to return to the initial theme of this section - Diversity. NERAD, by virtue of its design, and in spite of its problems, is a part of that diversity. In this role the project personnel have performed very well indeed and they may be expected to continue their excellent record of striving for self-improvement under most trying circumstances. The recommendations which follow are aimed at improvement of an existing system, and to help meet the project goals of replicability and institutionalization of an integrated project.

3. RECOMMENDATIONS

1. NERAD project personnel are aware of socio-cultural difficulties, but no single individual has the academic background to obtain all of the relevant information at the village level.

It is proposed that a cultural or ecological anthropologist, familiar with Northeast Thailand be added to the Technical Assistance team for the remainder of the project. His or her duties would involve, but not be limited to:

- a. Obtaining ethnographic information from project villages that will ensure inclusion of villager thinking in planning and implementation.

- b. Assist in the development of improved Needs Assessment techniques for the Tambol Councils.
 - c. The design of improved Needs Assessment techniques for the RAT teams.
 - d. The design of an improved monitoring and evaluation system that emphasizes information from the village level.
2. It is also recommended that expertise from local educational institutions in such areas as Isan Worldview, Indigenous Knowledge Systems, and Ethnoscience be included in Needs Assessment and information gathering. (The Isan Documentation Center in Mahasarakham, for example, is an underutilized educational resource.) The inclusion of this expertise and information not only assists learning by NERAD, but also assists institutionalization of NERAD development ideas through the interaction.
 3. When the first two recommendations have been adopted, it remains for the system of technology development to be carried out with a solid social foundation. True on-farm trials and demonstrations, if they are to represent villager needs, must include knowledge of the villagers' history, knowledge system, and agricultural experience. It is recommended, as one more step towards institutionalization,

that the IKS (Indigenous Knowledge System) approach currently being developed by DOAE be incorporated into NERAD. The activity of farm record keeping could easily be adapted to assist in the understanding and interpretation of farmer behavior with very little additional training of Kaset Tambol agents.

--- These recommendations represent a three-pronged mutually supportive approach to the inclusion of increased villager participation in NERAD, and the institutionalization of the NERAD development approach in the form of:

- a. Technical Assistance
- b. Local Educational Institution
- c. RTG Institution

NERAD is the ideal proving grounds for the inclusion of this approach, the timing is right, and the project and institutions are receptive.

APPENDIX A. SCOPE OF WORK: NERAD MID-TERM EVALUATION TEAM

PURPOSE AND TIMING OF THE EVALUATION

The purpose of this mid-term joint Thai/USAID evaluation is to provide project management with recommendations for enhancing Project effectiveness and making mid-course corrections in strategies, processes and plans so that the chances of project success are increased. The evaluation occurs at a point where desired agricultural program innovations have been initiated and begun to function. The scope of the evaluation is to examine those innovations and assess their probable impacts, including mechanisms and procedures for planning, programming, budgeting, implementing, reporting, monitoring, and evaluating, the managerial, technological and operational dimensions of the project within their agricultural program context.

To achieve the purpose of this evaluation, the following areas must be specifically covered:

- A. Assessment of the progress to date toward achieving the project purpose, that is, to establish in eight representative tambon of Northeast Thailand a replicable agricultural development program for increasing farm productivity and income particularly among lower income farmers in the rainfed agricultural zones.
- B. Examination of implementation and management arrangements in NERAD and to identify prevailing strengths and weaknesses which facilitate and/or inhibit the accomplishment of processes and activities consistent with the project purpose.
- C. Examination of the original assumptions and design to see whether they remain valid, to what extent they have proven reliable, and the implications for the Project if some of these assumptions are not reliable. This should include an analysis of what changes or expansions/reductions in activities should be made, if necessary, to improve implementation and facilitate achievement of Project objectives. The evaluation team is specifically requested to address Project design/redesign issues raised in a recent "Records of Audit Findings" (March 13, 1985) and any subsequent audit recommendations on this subject.

This evaluation takes place after three and one-half years of Project implementation. It will be eight weeks long beginning in early June and ending in late July. An evaluation at this time will allow the implementing agencies to incorporate findings and recommendations in the remaining three years of Project life.

QUESTIONS THE EVALUATION TEAM WILL ANSWER

The Evaluation Team will examine Project progress to date by responding to the following questions. The evaluation report shall respond to each of the following sets of questions, specifying indicators and evidence supporting their conclusions, judgements and recommendations. The report's findings and information will assist Project management in making decisions to reinforce, strengthen, and alter strategies and plans for the remainder of the Project.

1. Achievement of Purpose. To what extent are the processes, practices and systems established by the Project likely to result in the achievement of the project purpose within the resources and time remaining in the Project. Based on Project experience to date, does the LOGFRAME represent the Project? How adequate are existing indicators of Project progress? What changes, to include expansion/reduction of Project activities, may be required to achieve Project purpose?
2. Integration/Coordination. Are integrated planning and implementing processes and mechanisms (across disciplines and agencies) likely to be effective? Are the services received by the target beneficiaries likely to be significantly improved because of this Project? What is the likelihood that these processes will be continued and replicated by the MOAC?
3. Technology Development. Is the approach of the Project in doing on-farm research and extension demonstrations effective? Are technologies being generated and adapted out of the process likely to be responsive and appropriate to rainfed farmers' needs, problems and resource bases? What are these technologies and are they likely to be sustainable over time? Is this process and resultant technology likely to be replicable for on-going programs in the MOAC? Assess the processes by which effectiveness and efficiency are tested. What are the major agronomic, socio-economic, and cultural constraints to adoption of these new technologies? What should be done during the remainder of the Project to address these constraints?
4. Implementation as an Interactive/Iterative Process. As the Project has evolved, do new strategies, annual work plans, new processes, new activities, and new outputs reflect lessons learned from Project experiences? This pertains to the areas of Project management, technology testing, or operations at the Bangkok level, NEROAC level, provincial or district level, or at the village or tambon level. What is the likelihood that the various agencies will institutionalize this learning? To what extent are empirical data gathered, analyzed, and fed back to management to guide Project decision-making? What should be done during the remainder of this Project to improve data collection, reporting, monitoring, and evaluation? What lessons have been learned during the implementation of this Project? How likely is it that these lessons can be integrated into on-going MOAC agriculture development programs? If the Evaluation Team were to

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design this Project over again, what would be done differently?

5. Top-Down/Bottom-Up Interaction. Assess the likelihood and effectiveness of tambon planning and/or other processes in articulating the needs and problems of the farmers in the Project area. To what extent will this participation be representative of the target population? Are the resources of the implementing agencies, available through the Project being effectively and efficiently matched with needs and problems?

6. Institutional Development. If the present trend of implementation continues, to what extent will NERAD enhance the capacity of the participating departments, or the MOAC as a whole, to develop and deliver more effective and efficient integrated research and extension services which are responsive and accessible to rainfed farmers in the NE? What components of the Project are likely to show the most promise to be replicated within respective agencies or within the MOAC? What strengths should be capitalized upon or what weaknesses should be improved upon which are likely to be most promising? What mechanisms, processes, or structures should be eliminated which show little or no hope for future replication?

7. Support. Has support by the major parties involved in this Project been adequate and timely? In light of Project experience to date assess what kinds of policy and financial/personnel support are needed to reinforce and/or modify Project activities to attain Project objectives? Specify by agency (USAID, the MOAC, DTEC, MOF, and BOB) the necessary requirements and timing.

8. Technical Assistance Has the technical assistance, been provided in a timely and efficient manner and of the kind and amount required? Based on performance to date and present TA-plans what recommendations can be made to ensure that overall Project goals are served by this component? What sort of technical assistance will be most beneficial to attain Project objectives? Should this take any different form from the past?

TEAM COMPOSITION

The evaluation is to be conducted by joint Thai/USAID Evaluation Team composed of officials from five RTG agencies (DTEC, MOF, BOB, MOAC and NESDB) and four outside contractors. The team leader will be chosen from one these outside contractors. The composition of the outside members of the Evaluation Team will include the following:

1. An organizational development specialist with experience in national agricultural development programs in developing countries. (Thai)
2. An agriculturalist with cropping or farming systems experience in national agricultural development programs. (Thai)

3. An agricultural economist with cropping or farming systems experience in economic analysis and implementation in national agricultural development programs, preferably in Thailand. (American)
4. A social scientist with experience in systems analysis and implementation in national agricultural development programs, preferably Thailand. (American)

All members of the Evaluation Team will be provided host country contracts through DTEC.

REPORT

The evaluation team will produce a report tentatively entitled, "Mid-Term Evaluation of the Northeast Rainfed Agricultural Development (NERAD) Project." The report will be initially written in English and then translated into Thai. The organization of the report will conform to the following outline:

- 1 Preface
- ii Table of Contents
- iii Project Identification Data Sheet
- I Executive Summary (Standard USAID format)
- II Major Conclusions and Recommendations
- III The NERAD Project Context
 - A. Background and purpose of the present project (including goals, purposes, activities and existing rainfed agricultural development program issues which the Project proposed to address; host government's and other donor interest, involvement, and support of the Project)
 - B. Purpose and Methodology of Evaluation
- IV Discussion of Findings, Conclusions, and Recommendations
- V Appendices
 - A. Scope of Work
 - B. Persons Interviewed, Sites Visited
 - C. Other Annexes as appropriate (information to support recommendations and guide their implementation)

TENATIVE SCHEDULE

1. Day 1-12 Team orientation and RTG departmental interviews
2. Day 13-19 Interviews at Tha Phra
3. Day 20-41 Field visits (some Team members may go to Bangkok)
4. Day 42-46 Initial draft, briefing, discussion of tentative findings and recommendations
5. Day 47-55 Draft final report, presentation of report
6. Day 56 Final report due

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APPENDIX B. PERSONS INTERVIEWED, SITES VISITED

Royal Thai Government Representatives

Mr. Songkram Krajangnate	Director, Evaluation and Reporting Division, Bureau of the Budget
Miss Pissamai Khanobdee	Chief, Monitoring and Evaluation Technical Service Division, Department of Technical and Economic Cooperation
Mr. Manoch Sooktrupcharern	Officer 5 Department of Technical and Economic Cooperation
Dr. Banterng Masang	Economist 7 Office of Agricultural Economics
Mrs. Saowanee Vorapanich	Economist 6 Office of Agricultural Economics
Mr. Prasit Ujgin	Fiscal Policy Office Ministry of Finance
Mr. Aran Roongsawarng	Fiscal Policy Office Ministry of Finance
Mr. Jeera Prateep	Analyst 5 Bureau of the Budget
Mr. Siranon Sakolwithayanon	Analyst 4 Bureau of the Budget
Mr. Dechapiwat Na Songkla	Analyst 4 Bureau of the Budget

Persons Interviewed

Mr. Noparat Wechsart	Governor, Chaiyaphum Province
Mr. Utai Narkpreecha	Governor, Nakorn Phanom Province
Mr. John Foti	USAID
Dr. Richard Hopkins	USAID
Mr. Robert Ressegule	USAID
Mr. Uoychai Vattraphoudej	USAID
Dr. Charles Alton	USAID
Dr. John Ragland	Chief of Party Technical Assistance Team of NERAD Project
Dr. Lee Meyer	Economist, Member of Technical Assistance Team of NERAD Project
Mr. Iain Craig	Cropping System Specialist, Member of Technical Assistance Team of NERAD Project
Mr. Pisal Chuangchum	Training Specialist, Member of Technical Assistance Team of NERAD Project

Northeast Regional Office of Agriculture (NEROA)

Mr. Somchai Thammanoonragsa	NERAD Project Director
Dr. Utai Pisone	Deputy Project Director of NERAD Project
Mrs. Punpen Umaritsut	Chief, Publicity and Training Section
Mr. Pramote Chullathavorn	Chief, Planning and Project Section
Mr. Kasem Chompoonutprapa	Chief, Agricultural and Cooperative Information Section
Mr. Visuthi Umaritsut	Chief, Agricultural and Cooperative Technical Section
Dr. Waewchark Kongpolprom	Field Manager, Roi Et NERAD

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Dr. Sawat Thummabood	Field Manager, Sisaket NERAD
Mr. Withoon Wardhanabhuti	Field Manager, Chaiyaphum NERAD
Mr. Chalermchai Prasartsee	Field Manager, Nakhon Phanom NERAD
Mr. James Hopkins	NERAD Project Administration Assistant
Mr. Rob Songlin	Operation Assistant of NERAD Project
Mr. Bootin Narinya	NERAD Agriculturalist
Mr. Surapong Narajun	NERAD Agriculturalist
Mrs. Sopa Kongkarat	Economist 5
Miss Udomluk Paisarltham	Economist 5
Mr. Sutat Boonpeng	Agriculturalist

Khon Kaen University (KKU)

Dr. Aran Patanothai	Plant Science Department
Dr. Viriya Limpinuntana	Plant Science Department
Dr. Suriya Smutkupt	Department of Social Science
Mrs. Nongluk Suphanchaimat	Department of Agricultural Economics
Mr. David Thomas	Researcher Ford Foundation Grant
Mrs. Jureerat Thomas	Researcher Ford Foundation Grant

Office of Agricultural (OAE)

Dr. Supote Dechates	NERAD Coordinator
Dr. Banterng Masang	Economist 7
Mr. Boontam Prommani	Economist 7
Mr. Wirat Jamjunya	Economist 6
Mr. Somnuk Pooprang	Officer

Department of Agriculture (DOA)

Mr. Chalerm Sukapong	Agriculturalist 6 Farming System Research Institute
Dr. Montian Sompee	Director, Khon Kaen Field Crop Research Institute
Mr. Pahsuk Tongpool	Agriculturalist 5 Farming System Research Institute
Mr. Manat Leechawengwongs	Agriculturalist 6 Farming System Research Institute
Mrs. Unchulee Intrakul	Officer Farming System Research Institute
Mrs. Supatra Jeensaloot	Officer Farming System Research Institute
Mr. Vatchara Netpichit	Agriculturalist 4 Farming System Research Institute
Mr. Sivapong Naruebal	Agriculturalist
Mr. Kriangsak Thakoolsawad	Agriculturalist 5 Nakhon Phanom Horticultural Crop Research Station
Mr. Sanae Sirirat	Agriculturalist 4 Sakol Nakhon Rice Research Station
Mr. Sujin Cheewaprasert	Director, Roi Et Field Crop Research Station
Mr. Utai Na-ngarm	Agriculturalist Sakol Nakhon Rice Research Station
Mr. Sreesom Visrutreetone	Agriculturalist Roi Et Field Crop Research Station
Mr. Sumrerng Kunha	Agriculturalist Roi Et Field Crop Research Station
Mr. Kumjun Tepbunharn	Agriculturalist Roi Et Field Crop Research Station
Mrs. Pinkao Kochakul	Agriculturalist Roi Et Field Crop Research Station
Mr. Suchart Kum-on	Agriculturalist Roi Et Field Crop Research Station

Mr. Prasert Anupun	Director, Sisaket Horticultural Crop Research Institute
Mr. Sasitorn Wasununt	Agriculturalist Sisaket Horticultural Crop Research Station
Mr. Seree Keerut	Agriculturalist
Miss Krisda Duangmanee	Agriculturalist
Mr. Taweesuk Chaipunya	Agriculturalist
Mrs. Sutira Anupun	Agriculturalist
Mr. Tiantong Kaobootdee	Agriculturalist

Royal Forestry Department (RFD)

Mr. Umhant Ongkhajornkuli	NERAD Coordinator
Mr. Nipon Chotibal	Technical Forestry Officer 4
Mr. Boonsong Juntaarasute	Sisaket Provincial Forestry Officer
Mr. Apichai Sreedej	Technical Forestry Officer
Mr. Wichit Saengrat	Technical Forestry Officer
Mr. Somsak Apilakittikul	Technical Forestry Officer
Mr. Wisit Teemasung	Roi Et Provincial Forestry Officer

Department of Agricultural Extension (DOAE)

Mr. Ekachai Ocharoen	Chief, Foreign Relation Sub- division, Division of Planning and Special Project Division
Mr. Songsak Surattikul	Agriculturalist
Mr. Weera Polprasert	Extension Officer
Mr. Pisana Krasae-in	Chief, Sisaket Extension Officer
Mr. Rewat Promla	Assistant Chief, Sisaket Extension Office
Mr. Suwate Kotpakdi	Roi Et Extension Officer
Mr. Samarn Hongthai	Roi Et Extension Officer

Mr. Pichai Kitisreeworapun	Roi Et Extension Officer
Mr. Kummee Bunpakunya	Roi Et Extension Officer
Mr. Nipon Sibla	Roi Et Extension Officer
Mr. Somruk Siriboon	Roi Et Extension Officer
Mr. Somnuke Plodthong	Roi Et Extension Officer
Mr. Chomchai Sirikul	Roi Et Extension Officer
Mrs. Suwadee Poka	Roi Et Extension Officer
Mr. Pipoon Chailark	Roi Et Extension Officer
Mr. Sanan Punumong	Sisaket Extension Officer
Miss Malinee Omanee	Sisaket Extension Officer
Mr. Sunthorn Netharn	Sisaket Extension Officer
Miss Rungsee Boonsorn	Sisaket Extension Officer
Mr. Sawarng Karkpun	Sisaket Extension Officer
Mr. Tawunwong Popanao	Nakhon Phanom Extension Officer
Mr. Kabuan Kumboonmee	Nakhon Phanom Extension Officer
Mr. Kuntum Suwadee	Nakhon Phanom Extension Officer
Mr. Surachai Tungnithikul	Nakhon Phanom Extension Officer
Mr. Nopparut Lasuprom	Nakhon Phanom Extension Officer
Mr. Chareonsuk Mungkalakeeree	Nakhon Phanom Extension Officer
Mr. Thornsit Srihabute	Nakhon Phanom Extension Officer
Mr. Sayan Sakulthai	Nakhon Phanom Extension Officer
Mr. Anant Sawadipala	Chief, Chaiyaphum Extension Office
Mr. Sivapong Naruebal	Chaiyaphum Extension Officer
Mr. Ararm Monchaiphum	Chaiyaphum Extension Officer
Miss Pissiri Bua-ngarm	Chaiyaphum Extension Officer

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Department of Land Development (DLD)

Mr. Surajit Chaisiri	NERAD Coordinator
Mr. Chumphol Lilittham	Agriculturalist 5
Miss Chidchanok Putprasert	Economist 4
Mr. Tongasuk Upanta	Chief, Sisaket Land Development Station
Mr. Charnchai Ungsiwong	Chief, Chaiyaphum Land Development Station
Mr. Chavengsak Sripan	Agriculturalist 3
Mr. Anusorn Boonkongpaisal	Officer
Mr. Peerasuk Jukapun	Officer
Mr. Chairerk Utaprasert	Officer
Mr. Methee Thamaprateep	Officer
Mr. Pitak Kolla	Officer
Mr. Songkram Surakarn	Officer

Cooperatives Promotion Department (CPD)

Mrs. Wannee Ratanawaraha	Coop. Technical Officer 7
Miss Somtawil Paditporn	Coop. Technical Officer 5
Mr. Supachai Danaphong	Coop. Technical Officer 4
Mrs. Veerawon Singhasa	Coop. Technical Officer 6 Chaiyaphum Provincial
Miss Rosarin Sakulchareon	Officer
Mr. Issara Prinyanusorn	Chief, Sisaket Cooperative Promotion Office
Mrs. Kumchai Wongwitkorn	Sisaket Provincial Officer 6
Mr. Pissarl Raung-udom	Sisaket Provincial Officer
Mr. Somporn Downraung	Sisaket Provincial Officer
Miss Ladda Nanakornphanom	Nakhon Phanom Provincial Officer

Mr. Sukit Hongtong	Nakhon Phanom Provincial Officer
Mr. Dulyakit Promsamak	Roi Et Provincial Officer
Miss Piluntana Suwanmanee	Roi Et Provincial Officer
Mr. Buntoon Rachiwong	Roi Et Provincial Officer
Mrs. Chalongluk Chettarach	Roi Et Provincial Officer

Department of Fisheries (DOF)

Mr. Boonlert Sarmchai	Chief, Sisaket Fishery Office
Mr. Suwat Tiampeng	Chief, Roi Et Fishery Office
Mr. Wichian Tumpeesuwan	Chief, Nakhon Phanom Fishery Office
Mr. Sanga Sithi-udomchai	Chief, Chaiyaphum Fishery Office
Mr. Kumron Potipitak	Department of Fisheries Coordinator
Mr. Sompote Kripkatok	Fishery Officer 4
Mrs. Sumana Choipholboon	Fishery Officer 3
Mr. Pradit Polsen	Assistant Chief, Roi Et Fishery Office
Mr. Rattanapong Maleelai	Nakhon Phanom Fishery Officer
Miss Somdej Posreema	Chaiyaphum Fishery Officer
Miss Umaporn Kanokjiraporn	Sisaket Fishery Officer

Department of Livestock Development (DOLD)

Dr. Thasnai Toanunt	Division of Veterinary Service
Dr. Prapahd Neramitmansook	Division of Veterinary Research
Dr. Wiset Prasert	Coordinator
Mr. Serm Patitasana	Chief, Chaiyaphum Livestock Officer
Mr. Serm Patitasana	Chief, Chaiyaphum Livestock Officer
Mr. Sanguan Sithivej	Chaiyaphum Livestock Officer
Mr. Thongchai Lukhantod	Chaiyaphum Livestock Officer

Mr. Thawat Pumnak	Chaiyaphum Livestock Officer
Mr. Sukda Kloa-urai	Nakhon Phanom Livestock Officer
Mr. Vichian Chavala	Nakhon Phanom Livestock Officer
Mr. Sanate Wongtala	Nakhon Phanom Livestock Officer
Mr. Prajuab Wongkumjun	Nakhon Phanom Livestock Officer
Mr. Prayoon Supantamart	Nakhon Phanom Livestock Officer
Mr. Arworn Sriboonlue	Chief, Sisaket Livestock Office
Mr. Suriya Kessiri	Sisaket Livestock Officer
Mr. Noparat Sudadej	Roi Et Livestock Officer
Mr. Winai Waree	Roi Et Livestock Officer
Mr. Rungsun Sodompruke	Roi Et Livestock Officer
Mr. Kriangsak Kunchalee	Roi Et Livestock Officer

Sites Visited

1. Chaiyaphum Province

1.1. Tambon Lahan

- Ban Nong Ya Khao Nok
- Ban Tasala
- Ban Khok Phaeng Phuai

1.2. Tambon Kwang Jon

- Ban Bua Pak Kwian
- Ban Don Champa

1.3. Tambon That Thong

- Ban Nongkhan
- Ban Nong Kung Mai
- Ban Fai Phaya Nak

2. Nakhon Phanom Province

2.1. Tambon Na Thom

- Ban Na Thom
- Ban Fan Hao
- Ban Na Do

2.2. Tambon Na Ngua

- Ban Na Ngua
- Ban Na Kra Thym
- Ban Na Koi
- Ban Na Koi Noi
- Ban Non Sa-ad

3. Sisaket Province

3.1. Tambon Taket

- Ban Taket
- Ban Duu
- Ban Nong Lung
- Ban Nong Lek
- Ban Tung Sawaeng
- Ban Kasem Suk
- Ban Pluei

3.2. Tambon Tae

- Ban Tae

3.3. Sisaket Horticulture Research Center

4. Roi Et Province

4.1. Tambon Nong Kaeo

- Ban Song
- Ban Lao Non Thon

4.2. Tambon Na Muang

- Ban Kwang Noi
- Ban Na Kham
- Ban Nong Wa
- Ban Na Muang
- Ban Nong Hong
- Ban Nong Pan
- Ban Sai Khao

4.3. Roi Et Field Crop Research Station

เหล่านั้นและผลกระทบ รวมถึงกลไกของกระบวนการของการวางแผน การวางโครงการ การจัดสรรงบประมาณ การปฏิบัติงาน การรายงาน การติดตามผลและการประมาณผลมิติต่างๆ ของการจัดการ เทคโนโลยีและการปฏิบัติการของ โครงการภายในกรอบโครงการเกษตร

File: EVALUATIONS 493-0308

4. ข้อพบเห็น

โครงการ NERAD ได้ดำเนินการก้าวหน้ามาอย่างน่าชมเชยทั้งๆ ที่เป็นที่ยอมรับกันว่าโครงการมีต้นแบบไม่ค่อยดีนัก ความสำเร็จนี้เกิดขึ้นจากการตรวจสอบตนเอง การแก้ไขข้อบกพร่องต่างๆ และแรงกระตุ้นจากการติดต่อสื่อสารที่เป่าช่องโหว่ระหว่างกรณีที่เกี่ยวข้องของกระทรวงเกษตรและสหกรณ์ แต่ก็ยังคงมีเหลืออยู่บ้าง การรวมตัว การรวบรวมประสบการณ์และข้อมูล เพื่อใช้ให้มีประสิทธิภาพมากขึ้นและเพื่อให้หน่วยงานที่เกี่ยวข้องทั้งหมดในการสร้างความเข้าใจ ถึงจุดประสงค์ของโครงการ เป็นอันเดียวกันมากขึ้น

จุดประสงค์พื้นฐานของ NERAD ก็คือการจัดระบบการพัฒนาการเกษตรอาสัยน้ำฝนที่ถ่ายแบบได้เข้าสู่ระบบปกติ ความสำเร็จในการนี้หมายถึงการถอดแบบของระบบที่นำเอาเทคโนโลยีรวมทั้งที่เหมาะสมไปสู่ท้องถิ่นที่เหมาะสม ในเวลาที่เหมาะสมยิ่งไปกว่านี้ ยังหมายถึงระบบที่ถูกต้องเหมาะสมทางเศรษฐกิจ และสังคม เพื่อกลั่นกรองกิจกรรมต่างๆ ที่สร้างรายได้ให้แก่เกษตรกร ซึ่งสิ่งนี้จะเป็นไปได้ในระยะเริ่มต้นของโครงการ การปรับปรุงต่อไปเรื่อยๆ ในคุณภาพของข้อมูลที่มีถึง ทำให้การวิเคราะห์ดังกล่าวเป็นไปได้

การจัดเข้าสู่ระบบปกติ และการถอดแบบหมายถึงการเรียนรู้ระบบซึ่งเป็นสิ่งตรงกันกับการเรียนรู้ถึงระดับของกิจกรรม ตามที่ได้คาดหวังไว้ในโครงการขนาดนี้ มีตัวอย่างที่ดีมากอยู่หลายตัวอย่างเกี่ยวกับการร่วมมือระหว่างกรมในระดับสนาม ในขณะที่ระดับผู้วางนโยบายยังล่าหลัง ซึ่งเป็นข้อเท็จจริงอันนำไปสู่ความเข้าใจผิดเกี่ยวกับโครงการในทุกระดับ เหล่าผู้จัดการโครงการตระหนักถึงปัญหาส่วนใหญ่เหล่านี้เป็นอย่างดี และมาถึงจุดที่ควรเน้นเป็นพิเศษคือ 1) ความล่าช้าเป็นที่ยอมรับได้ มีความเข้าใจ เป็นอันเดียวกันกับจุดประสงค์ของโครงการ 2) ความยากลำบากของกลยุทธ์ที่ใช้ในการประเมินความต้องการของเกษตรกร 3) ปรับปรุงการรวมความคิดและการประสานงานของกิจกรรมระหว่างนักวิจัยกับนักส่งเสริมและการคัดเลือกพื้นที่สำหรับการวิจัยในไร่ 4) ประสิทธิภาพของการติดตามผลและการประเมินผล ในส่วนที่เกี่ยวข้องกับความต้องการของโครงการ 5) ปัญหาเหล่านี้ได้กล่าวไว้เป็นการเฉพาะในข้อเสนอแนะ

แผนพัฒนาเศรษฐกิจและสังคมฉบับที่ 6 จะเรียกร้องให้มีการเพิ่มจำนวนโครงการแบบผสมผสานให้มากขึ้น ฉะนั้น ประสบการณ์และบทเรียนที่ได้รื้อจาก NERAD ซึ่งหาไม่ได้จากที่อื่นเป็นสิ่งสำคัญ ด้วยเหตุนี้ NERAD จึงเป็นต้นแบบรากฐานสำหรับการวางแผนในอนาคตในระดับชาติ

แม้ว่าการดำเนินงานของโครงการ NERAD จะยุ่งยากแต่ก็ถือความเป็นไปได้อันสำคัญเพื่อการพัฒนาการเกษตรอาสัยน้ำฝนในประเทศไทย ทั้งนี้ได้ให้การฝึกอบรมในด้านวิจัยและส่งเสริมของระบบการทำไร่ไม่เพียงแต่ในสวนแต่ว่ารวมถึงในระดับกระทรวงด้วยประสบการณ์ซึ่งหาที่อื่นไม่ได้มีค่ามากต่อโครงการการผสมผสานต่างๆ ที่กล่าวไว้ว่า "วิเศษ" บนหน้าข้างหน้า

บทสรุป

1. ปัญหาและความเห็นทั่วไป

เนื่องมาจากดินไม่ดีและฤดูกาลของฝนมีความไม่แน่นอน เกษตรกรส่วนมากของภาคตะวันออกเฉียงเหนือ จึงเป็นเกษตรกรที่หว่านโดยอาศัยน้ำฝนในการดำรงชีพซึ่งเป็นกลุ่มชนที่ยากจนที่สุดของประเทศ เพื่อแก้ไข สถานะการนี้ เทคโนโลยีส่วนใหญ่จึงได้ขึ้นการระดมทุนโดยโครงการเกษตรแห่งชาติของกระทรวง เกษตรและสหกรณ์ ทั้งที่เป็นวิชาการเฉพาะพืชหรือวิชาการเฉพาะด้าน ทายไตสภาพการณ์ที่พล ะควบคุมได้ โดยสถานีทดลองของกรมต่างๆ ในกระบวนการพัฒนาเทคโนโลยีนี้ งานวิจัยและงานส่งเสริมมีการ เชื่อมโยง กันเพียงเล็กน้อยเท่านั้น

โครงการพัฒนาการเกษตรอาศัยน้ำฝนภาคตะวันออกเฉียงเหนือ (โครงการ NERAD) เป็นความพยายาม ของกระทรวงเกษตรและสหกรณ์ที่จะเริ่มการแก้ไขช่องว่างในการพัฒนาและการนำเทคโนโลยีไปสู่เกษตรกร ที่ดำรงชีพโดยอาศัยน้ำฝนในภาคตะวันออกเฉียงเหนือตามที่กล่าวไว้ในเอกสารสัญญาเงินกู้และเงินช่วยเหลือ ให้เปล่า จุดประสงค์ของโครงการ คือ "เพื่อพัฒนาโครงการพัฒนาการเกษตรในตำบลตัวแผล จำนวนแปด ตำบลเพื่อให้สามารถนำไปถอดแบบได้ เพื่อเพิ่มผลผลิตในไร่นาและเพิ่มรายได้ในหมู่เกษตรกรที่มีรายได้น้อยซึ่ง อยู่ในเขตเกษตรอาศัยน้ำฝน" โดยตั้งใจที่จะจัดตั้งโครงการงานวิจัยและงานส่งเสริมการ เกษตรที่ตัดแปลงได้ซึ่ง พร้อมที่จะนำไปใช้ได้ง่ายและสนองความต้องการของเกษตรกรที่ยากจน

2. ลักษณะของความช่วยเหลือของสหรัฐฯ

งบประมาณของยูเอสด่วนมากเป็นความช่วยเหลือด้านผู้เชี่ยวชาญ การฝึกอบรมเกษตรกรและเจ้าหน้าที่ ส่งเสริม เกิมีการสนับสนุนของประเทศร่วมมือในพื้นที่เป้าหมาย การจัดซื้อวัสดุครุภัณฑ์และสิ่งก่อสร้างที่จำเป็น และการพัฒนาแหล่งน้ำ การปรับปรุงดินและที่ดิน การสำรวจ การทำแผนที่ การวิจัยและสาธิต งบประมาณ โครงการทั้งหมดมีดังนี้

เงินยูเอสด	6.3	ล้านเหรียญสหรัฐ
เงินช่วยเหลือให้เปล่ายูเอสด	3.7	"
เงินงบประมาณประจำ	4.9	"
เงินงบประมาณสมทบกรมวิเทศสหการ	.825	"
รวม	15.725	

3. จุดประสงค์ของการประเมินผล

จุดประสงค์ของการประเมินผลทั้งโครงการร่วมไทย-สหรัฐฯ เพื่อให้ขอเสนอแนะแก่การจ้การ โครงการ ในการเพิ่มประสิทธิภาพโครงการและทำการปรับปรุงแก้ไขแนวนโยบาย กระบวนการและแผนในระยะครึ่งทาง เพื่อให้โครงการมีโอกาสประสบความสำเร็จได้มากขึ้น การประเมินผลเกิดขึ้นเมื่อโครงการเกษตรที่ต้อง การเริ่มต้นการเปลี่ยนแปลง และกำลังจะเข้ารูป ขอบเขตของการประเมินผลคือเพื่อตรวจ สอบการเปลี่ยนแปลง

2. บทสรุปและข้อเสนอแนะที่สำคัญ

โครงการ NERAD เป็นโครงการที่กว้างขวางทั้งในความหมายของจำนวนกรมที่เกี่ยวข้อง และในความหมายของความหลากหลายของภูมิภาคและวันกลุ่มต่างๆ ในพื้นที่ของโครงการ การเริ่มต้นของกรอบอันกว้าง เป็นเหตุที่สำคัญที่ทำให้โครงการประสบกับ "ความเจ็บปวดที่เจริญงอกงาม" ปัญหาหลายปัญหาในตอนนี้ได้รับการแก้ไขไปแล้ว เหตุที่โครงการในส่วนทั้งหมดยังมีประโยชน์และควรทำต่อไป อย่างไรก็ตามก็มีส่วนที่ต้องปรับปรุง

ข้อสังเกตทั่วไป

การขาดความเข้าใจร่วมกันเกี่ยวกับสาระสำคัญจริง ๆ ของโครงการ เป็นผลให้เกิดการเปลี่ยนแปลงสิ่งที่โครงการต้องการให้เน้น กิจกรรมที่จะต้องประสานงาน ถือเป็นสิ่งสำคัญมากกว่าหลักการโครงการ ผลก็คือการผสมผสานทราบดีเห็นและการจัดเข้าสู่ระบบปรกติของหลักการโครงการได้รับความสนใจเท่าที่ควร โครงสร้างขององค์การสำหรับการปฏิบัติงานโครงการก็เป็นสิ่งที่ต้องวางต่อการจัดเข้าสู่ระบบปรกติของหลักการและบทเรียนที่ได้เรียนรู้เข้าสู่กรมในสายงานของกระทรวงเกษตรและสหกรณ์ ฉะนั้นจึงขอเสนอแนะว่า

1. กระทบกระเทือนทำงานระบบการทำฟาร์ม และมอบหมายให้ดูแลข้อมูล เกี่ยวกับหลักการโครงการและข้อมูลที่ได้นำไปใช้เพื่อจุดประสงค์ของการวางแผนการปฏิบัติงานและการประเมินพื้นที่ใหม่เกี่ยวกับโครงการ

2. คณะกรรมการพัฒนาการเกษตรอาชีพผู้นำสมาคมตะวันออกเฉียงเหนือ ควรแต่งตั้งคณะอนุกรรมการนโยบาย NERAD โดยมีรองปลัดกระทรวงเกษตรและสหกรณ์เป็นประธาน และมีอนุกรรมการประกอบด้วยรองอธิบดีของกรมที่ร่วมดำเนินการในกระทรวงเกษตรและสหกรณ์ และให้ผู้อำนวยการโครงการเป็นอนุกรรมการและเลขานุการ เพื่อช่วยทำให้การจัดเข้าสู่ระบบปรกติของหลักการโครงการเข้าสู่กรมในสายงานให้เกิดความสะดวกขึ้น

3. การจัดการโครงการควรปรับปรุงอุปสรรคในกรอบของระบบการทำฟาร์ม โดยการใช้ข้อมูลความรู้และบทเรียนที่ได้จากกาปฏิบัติงานโครงการเพื่อจุดประสงค์ของการฝึกอบรม

4. การจัดการโครงการควรพัฒนาและปฏิบัติระบบจัดการซึ่งเกี่ยวข้องกับการเพิ่มการมีส่วนร่วมของเกษตรกรและชาวบ้านในการจัดการกิจกรรมโครงการ

5. สำนักงานเศรษฐกิจการเกษตร ไม่ควรปฏิบัติงานการติดตามผลโครงการแก่ตัวกระทำเหมือนกับ เป็นแขนขงอนุกรรมการนโยบาย NERAD โดยวิเคราะห์โครงการทั้งหมดเป็นระยะ ๆ โดยเน้นเกี่ยวกับการมีส่วนร่วมของภายในและในหมู่งิจกรรมต่างๆ เพื่อการประเมินความก้าวหน้า(การปฏิบัติงาน) ไปสู่การทำให้จุดประสงค์ของโครงการสัมฤทธิ์ผล

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สำนักงานเศรษฐกิจการเกษตร ควบคุมจัดการวิเคราะห์ในส่วนของเศรษฐกิจศาสตร์ของกิจกรรมเสนอเฉพาะ
ก่อนและในระหว่างการปฏิบัติงานภายใต้การให้คำแนะนำของคณะกรรมการบริหารหรือคณะ
ทำงานอื่นที่เกี่ยวข้อง

การดำเนินงานโครงการ

1. มีการประสานงานระหว่างกรมที่ปฏิบัติงานเพิ่มขึ้น โดยเฉพาะการประสานงาน
ระหว่างกรมวิชาการเกษตรและกรมส่งเสริมการเกษตร ควรให้ความพยายามทุกวิถีทางที่จะให้
ความสะดวกและการกระตุ้นต่อการประสานงานระหว่างกรมในทุกระดับต่อไปอีก
2. ขอบเขตทางภูมิประเทศอันกว้างขวางของโครงการ NERAD ถึงความสามารถของ
กลุ่มผู้จัดการที่มีอยู่จำนวนจำกัดไป โดยเฉพาะในช่วงปีแรก ๆ ของการปฏิบัติงานโครงการ ขอเสนอ
แนะว่าไม่จำเป็นต้องเปลี่ยนกรอบภูมิประเทศ
3. ดำเนินการจัดทำเอกสารโครงการ ที่มีการออกแบบโดยเฉพาะเพื่อการแจกจ่ายใน
ระดับหมู่บ้าน เพื่อเพิ่มมติการเขียนเข้าไปกับการสื่อสารควยวาระระหว่างเกษตรกรและผู้ปฏิบัติโครงการ
ซึ่งมีอยู่อย่างเกี่ยวจนกระทั่งบัดนี้
4. การบรรยายสรุปก่อนการปฏิบัติงานให้กับเกษตรกรโดยออกถึงโครงการที่เสนอโดยใช้
โสตทัศนูปกรณ์(สไลด์) และโดยการอธิบายกระตุ้นให้ชาวบ้านมีส่วนร่วมในโครงการ
5. เอกสารสำคัญของโครงการควรได้รับการแปล เป็นภาษา ไทย/อังกฤษ(รวมถึงรายงาน
การประเมินผลฉบับสั้นๆ) นอกจากนี้สิ่งที่มีเกี่ยวกับโครงการควรได้มีการรวบรวมสรุปเป็นรายการ
ทั้งสองภาษาให้ทันกับเหตุการณ์เป็นระยะ ๆ เพื่อให้เจ้าหน้าที่โครงการในทุกระดับ
6. ทุกสิ่งงบประมาณ เงินเดือนของลูกจ้างชั่วคราวจำนวนมากออกค่าเช่าเป็นจำนวน
หลาย ๆ เดือน ควรตั้งงบประมาณไว้เป็นพิเศษไว้ที่ท่าพระ เพื่อให้ความมั่นใจแก่ลูกจ้างทั้งหมดในการให้
รับเงินเดือนตามกำหนด
7. จำนวนเงินค่าพาหนะที่มีให้แต่ละหน่วยงานควรได้รับการทบทวนและควรจัดหา
พาหนะเพิ่มเติมตามความจำเป็น ถ้าใช้จ่ายเล็กน้อยจะรับครบทุกคู่สองสามคัน จะช่วยอย่างมาก
ในความหมายของความสำเร็จของเป้าหมายโครงการทั้งหมด
8. NERAD พยายามที่จะนำเอาโครงการที่เหมาะสมลงไปในพื้นที่ที่เหมาะสมใน
เวลาที่เหมาะสมเพื่อได้รับความสำเร็จตามเป้าหมายทั้งหมดของโครงการในการที่จะระงับ
ความยากจนและการหันหลังกลับ ขอเท็จจริงว่าเทคโนโลยีเพราะความอาจจะไปช้าก่อนอื่น ใน
โครงการของรัฐบาลไทยระดับชาติ ในท่าและของตัวเทคโนโลยีเองมีอีกหลายอย่างของเทคโนโลยี
ต่อโครงการ

9. ความที่วัตถุประสงค์พื้นฐานของโครงการ NERAD คือการพัฒนาด้านของหน่วยงาน
ต่างๆ ในระดับชาติ ระดับภาคและระดับท้องถิ่น การวิเคราะห์ประโยชน์จากการลงทุนของกิจกรรม
ซึ่งขึ้นอยู่กับความเร็วในพื้นที่โครงการหรือหมู่บ้านหลักมีงานน้อยที่สุด

การพัฒนาเทคโนโลยี

1. ทบทวนกิจกรรมโครงการทั้งหมด ศึกษาใหม่การยกเลิกหรือกิจกรรมย่อยที่ไม่มี
ส่วนในการพัฒนาด้าน ไม่เพิ่มการประสานงาน ระหว่างกรมหรือท้องถิ่นไม่เรียกร้องให้ชาวบ้านมีส่วน
ร่วมอันเป็นสิ่งสำคัญต่อกิจกรรมโครงการ

2. กรมส่งเสริมสหกรณ์ได้พัฒนาแนวทางใหม่ในการแนะนำ เกษตรกรเกี่ยวกับกลุ่มสหกรณ์
เกษตรกร โดยการจกกลุ่มเกษตรกร 50 คน (แทนที่จะเป็น 300 คนตามที่เกณฑ์) เป็น "ผู้เริ่มต้น"
เงินทุนหมุนเวียนชั่วคราวประมาณเจ็ดหมื่นบาทต่อกลุ่ม แนวทางที่มีประสิทธิภาพมากขึ้นเป็นไปในตัว
ได้รับการกระตุ้นในพื้นที่ภูมิประเทศอันภายหลังการสิ้นสุดโครงการ NERAD โดยให้กรมส่งเสริม
สหกรณ์ได้งบประมาณเงินทุนหมุนเวียนที่จัดไว้โดยโครงการ NERAD ต่อไปในชั้นถาวร

3. การฝึกอบรมเกษตรกรโดยทั่วไปมีคุณภาพสูง ด้วยความสมคูลย์ของชั้นเรียนและการ
ฝึกอบรมแบบ "ดึงมือ" อย่างไรก็ตาม การติดตามการฝึกอบรมนั้นยังไม่เพียงพอเนื่องจากข้อจำกัด
ของกำลังคนเสียส่วนมาก การติดตามผลของการฝึกอบรมควรเพิ่มแม้จะหมายความว่าลดจำนวน
การฝึกอบรมเกษตรกรที่จัดไว้

4. โครงการงานการดำเนินงานให้โอกาสที่ดีแก่ชาวบ้าน NERAD ที่จะเรียนรู้การปฏิบัติการ
ทำฟาร์มที่เหมาะสมและถูกต้อง ซึ่งได้รับการพิสูจน์ว่าได้รับผลสำเร็จ เป็นขบวนการที่มีประสิทธิภาพ
ที่สุดอันหนึ่งสำหรับการถ่ายทอดเทคโนโลยีที่เหมาะสมขอแนะนำให้มีการเพิ่มกิจกรรมนี้ให้มากขึ้น

5. ขอเสนอแนะอย่างหนักแน่นว่าในช่วงเวลาที่เหลือของโครงการ NERAD โครงการงาน
ระบบการปลูกพืชถั่วเขียวที่เทคโนโลยีที่เป็นองค์ประกอบ ซึ่งยังคงอยู่ในระบบการทำฟาร์ม
เพื่อเน้นที่หลักและการแก้ปัญหาที่ดินด้วย ควรให้การพิจารณาเป็นพิเศษเกี่ยวกับการเลือกพื้นที่สำหรับ
การทดลองใส่ปุ๋ยและกรรมวิธีร่วมของเกษตรกรด้วย

6. โครงการงานควรใส่สถาบันที่รับการยกย่องในภาคสำหรับการวิจัยอันซับซ้อน หากเป็นไปได้
ขอแนะนำว่าการทดลองควรดำเนินในท้องของเกษตรกร การวิจัยเกี่ยวกับปัญหาของดินควรจะมีส่วนให้ความ
สะดวกกับการให้ความช่วยเหลือและการเกี่ยวข้องของเจ้าหน้าที่จากกรมพัฒนาที่ดินและกรมวิชาการเกษตร

7. การเก็บข้อมูลระยะยาว (240 ชั่วโมง) สำนักงานเศรษฐกิจการเกษตรใช้ทรัพยากร
โครงการโดยผิดสัดส่วน การวางแผนไร่นา จุดประสงค์กล่าวไว้เกี่ยวกับการเก็บบันทึกไร่นา ควรจะทำให้ง่ายลง
และอยู่บนฐานของข้อมูลที่เก็บแล้ว แล้วใช้ทรัพยากรเหล่านั้นในการวิเคราะห์ ไม่ใช่เพียงแต่การประมวลผล

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ข้อมูลโรเนาและวิเคราะห์กิจกรรมอื่นๆ ของโครงการ

แนวคิดทางสังคมศาสตร์

1. บุคลากรโครงการ NERAD รุ้ถึงความยากลำบากทางสังคมวัฒนธรรมแต่ไม่มีผู้ที่มีความรู้ทางวิชาการที่จะให้ใครมาเกี่ยวกับข้อมูลที่สำคัทั้งหมดในระดับหมู่บ้าน

ขอเสนอว่านักมนุษยวิทยาทางวัฒนธรรมหรือบัณฑิตวิทยา ที่มีความรู้เกี่ยวกับภาคตะวันออกเฉียงเหนือของประเทศไทย ให้เข้าไป คณะผู้เชี่ยวชาญในเวลาที่เหลือของโครงการ มีหน้าที่เกี่ยวข้องของนักวิจัยได้จำกัดอยู่กับ

ก. หาข้อมูลภูมิประเทศตามแผนผังจากหมู่บ้านโครงการเพื่อว่าจะทำให้แน่ใจว่าได้รวมความคิดของชาวบ้านไว้ในการวางแผนและการปฏิบัติงาน

ข. ช่วยในการพัฒนาการของเทคนิคการประเมินความต้องการที่ได้รับการปรับปรุงสำหรับสภาพตำบล

ค. การออกแบบของเทคนิคการประเมินความต้องการที่ได้รับการปรับปรุงสำหรับ คณะประเมินสภาวะแรงกดดัน (RAT)

ง. การออกแบบระบบการประเมินผลและการติดตามที่ได้รับการปรับปรุงเพื่อเน้น ข้อมูลจากระดับหมู่บ้าน

2. ขอเสนอแนะควยว่าความเชี่ยวชาญจากสถาบันการศึกษาท้องถิ่นในตำบล เช่น โลกทัศน์อีสาน (Indigenous Knowledge System) รวมไว้ในการประเมินผลความต้องการ และการรวบรวมข้อมูล ดังเช่น ศูนย์เอกสารอีสานที่จังหวัดมหาสารคาม เป็นแหล่งการศึกษาที่ได้รับนำไปใช้ในอนาน) การรวมความเชี่ยวชาญ และข้อมูลนี้ไม่เพียงแต่เป็นการช่วยการเรียนรู้ (NERAD) เท่านั้น หากแต่ยังช่วยเสริมสร้างความคิดการพัฒนา NERAD เข้าสู่ระบบปกติ โดยทางการประสานรวม

3. เมื่อข้อเสนอแนะสองข้อข้างต ได้รับการยอมรับ ก็คงเหลือระบบการพัฒนาเทคโนโลยีที่จะทำควยรากฐานทางสังคมอันมั่นคง จะเป็นการทดลองและการสาธิตในโรเนาที่แท้จริง หากเป็นการแทนความต้องการของชาวบ้าน ต้องรวมความรู้ของประวัติศาสตร์ชาวบ้าน ระบบความรู้ และประสบการณ์ทางการเกษตร ขอเสนอแนะอีกว่าให้ผู้การเสริมสร้างสถาบันตามทำงาน IKS กำลังได้รับการพัฒนาอยู่ในปัจจุบันโดยกรมส่งเสริมการเกษตรรวมไว้ใน NERAD กิจกรรม การเก็บข้อมูลบัญชีครัวเรือนสามารถนำ มาจัดแหล่งกระจายเพื่อช่วยในความเข้าใจและการให้ความหมายของพฤติกรรมของเกษตรกรรวมทั้งการอบรมเพิ่มเติมอีกเล็กน้อยให้กับเกษตรกรตำบล

ข้อเสนอแนะเหล่านี้เป็นสิ่งที่สนับสนุนสาขาขอเข้าสู่วาระการประชุมมีส่วนร่วมเพิ่มขึ้น
ใน NERAD และการสร้างเสริมภาควิชา NERAD เข้าสู่ระบบปกติในรูปแบบของ

1. ความช่วยเหลือทางวิชาการ
2. สถาบันการศึกษาในท้องถิ่น
3. สถาบันของรัฐบาลไทย

NERAD ก็คือพื้นที่ที่ผู้สนใจศึกษาเกี่ยวกับการรวมของแนวทางนี้ เวลานี้เป็นเวลาที่เหมาะสมตลอดจน
โครงการและสถาบันต่าง ๆ กำลังให้การยอมรับ