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METHODOLOGY DESCRIPTION SERIES WORKING PAPER M6

THE NERAD LOGICAL FRAMEWORK: A PROJECT DESIGN SUMMARY FOR PLANNING, MONITORING AND EVALUATION.

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NORTHEAST RAINFED AGRICULTURAL DEVELOPMENT (NERAD) PROJECT

NORTHEAST REGIONAL OFFICE OF AGRICULTURE

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PREFACE

This document has been printed and distributed by the Northeast Rainfed Agricultural Development Information and Coordination System (NERADICS) of the NERAD Project. The purpose of NERADICS is to establish, at the Northeast Regional Office of Agriculture, a system to manage Project-generated data and information in order to support the testing, transfer and dissemination of technologies, methodologies and approaches appropriate for integrated agricultural research and development in Northeast Thailand.

Technical working papers are produced with the objective of communicating project-generated information to the relevant research and development agencies in order to receive comments and feed-back and to help to ensure that the lessons learned within NERAD are made available to all interested individuals and organizations.

Working papers are produced on a number of topics and are grouped into three series according to their subject matter:

Technology Documentation Series

Documentation of technologies considered appropriate for rainfed agricultural development in Northeast Thailand

Methodology Description Series

Descriptions and methods of use of proven methodologies and techniques for the planning, analysis and evaluation of research and extension activities for rainfed agriculture.

Problem Definition Series

Situation papers on the problems, constraints and opportunities currently facing rainfed agriculture and farm families in Northeast Thailand.

All papers in these series are listed in the Appendix of this report and are available on request from the Project Director. The papers are updated at appropriate intervals and NERAD invites comments and discussion from readers on any topic covered in the reports.

NERAD PROJECT

NORTHEAST RAINFED AGRICULTURAL DEVELOPMENT PROJECT

PROJECT NO. 493-0308

PROJECT DESIGN SUMMARY: LOGICAL FRAMEWORK

Life of Project: From FY 82 to FY 89
Total U.S. Funding: $7.47 Million

OBJECTIVES: NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
GOAL: (Multi-Phase Program)	MEASURES OF GOAL ACHIEVEMENT:		INTERMEDIATE GOAL TO FINAL GOAL ASSUMPTIONS:
Increased economic well-being of poorer Northeast Thailand farm families.	1. Increased real income per farm family in Northeast relative to changes in the nation.	RTG statistical publications and reports.	1. RTG policies continue to assign high priority to rural development.
	2. RTG Sixth Five Year Plan indicators of Basic Minimum Needs show: a) increased levels of village development in target areas; b) reduced percentage of farm families below the poverty level as shown by changes in poverty concentration index. c) production of subsistence commodities adequate for farm family consumption needs.	Reports of evaluations of village development levels (Form NRDP 2c). Reports by NESDB Development Studies and Information Division.	2. Farmers desire an improved standard of living through increasing agricultural productivity and income. 3. Relatively stable price structures. 4. Continued political stability in Thailand.

OBJECTIVES: NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
INTERMEDIATE GOAL.	MEASURES OF INTERMEDIATE GOAL ACHIEVEMENT:	MEANS OF VERIFICATION	PURPOSE TO INTERMEDIATE GOAL ASSUMPTIONS:
To institutionalize and replicate within MOAC research and development approaches for optimizing the performance of rainfed agro-ecosystems in conformance with national policies and farmers' needs in Northeast Thailand.	1. NERDA and MOAC departments are using regular RTG resources for applying Project-developed approaches in implementing on-going programs and projects in: a) the original target area of 9 Tambons comprised of 101 villages in 7 districts of 4 northeastern provinces; b) areas outside the original 9 Tambon target area.	Interviews, MOAC reports, review of MOAC programs and projects, evaluations.	1. MOAC is willing to make adjustments necessary to incorporate proven approaches. 2. RTG resource allocation to MOAC does not decrease below present levels.
PROJECT PURPOSE: (1982-1989)	END OF PROJECT STATUS:	MEANS OF VERIFICATION	OUTPUT TO PURPOSE ASSUMPTIONS:
To identify and develop replicable approaches for agricultural research and development which increase farm productivity and income particularly among lower income farmers in rainfed agricultural areas of Northeast Thailand.	1. Integrated regional-based agricultural development information and coordination system in place which is: a) effectively operated by NERDA with active collaboration and use by MOAC departments as a support network for research and development activities in the project target areas;	Site visit to observe system operations at NERDA, reports, publications.	Existing personnel are willing and able to reallocate time required.

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PROJECT PURPOSE: (1982-1989)	END OF PROJECT STATUS:	MEANS OF VERIFICATION	OUTPUT TO PURPOSE ASSUMPTIONS:
	b)systematically coordinating the application of existing knowledge and lessons learned in developing guidelines for designing and planning research and development actions;	Reports of technical review workshops, workgroup reports, annually published guidelines and updates, other NERADICS documents.	Subject matter experts are willing to participate and share their knowledge and experience.
	c)designed with a capacity for expanded application to cover the entire Northeast region.	Long-range system development and implementation plans, hardware capacity, software applications capacity, database design structures.	System design approved.
	2. Management processes for integrated provincial and district level coordinated planning and implementation demonstrate:		
	a)increased effectiveness in matching available technologies and processes with local consumption needs, production potential, and market demand;	Review Tambon plans, site visits and interviews, economic studies, mini-evaluations, monitoring reports, evaluations.	Appropriate technologies and processes available Provincial and district officials are committed to increasing responsiveness to local needs and willing to coordinate plans and actions.
	b)increased efficiency in mobilizing and utilizing HOAC and local resources for full-cycle integrated agricultural development.	Site visits, reports of monthly meetings, monitoring reports, interviews, mini-evaluations.	

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	END OF PROJECT STATUS:	MEANS OF VERIFICATION	OUTPUT TO PURPOSE ASSUMPTIONS:
	3. Adaptive technology research and development process operating in the target area which produces alternative technologies and processes which are site-appropriate in terms of: a)biophysical constraints and requirements for adoption; b)socio-economic constraints and requirements for adoption.	Results of on-farm trials, multi-location trials, demonstration trials and studies, reports of technology triage workshops, economic analyses, mini-evaluations, farmer adoption and interest, spin-offs to other projects, spread-effect and spontaneous adoption observed by site visits, interviews, review of reports.	Policy level officials of MOAC support development of mechanisms for linking on-station experiments, on-farm adaptive research trials, and farmer-managed verification testing with training, extension, and production programs. Relatively stable socio-economic conditions.
	4. Agro-ecosystem properties of target areas which have adopted technologies and processes generated or adapted by the Project show evidence of: Productivity a)increased yields of subsistence commodities previously below requirements, and increased returns to labor and capital for market-oriented commodities; Stability b)stabilization of net returns in cash enterprises, and stabilization of on-farm family labor opportunities;	Surveys, statistics, economic studies, mini-evaluations, reports, interviews, evaluations.	Necessary farm inputs and infrastructure not addressed by the Project are adequately available in target areas. Relatively stable general climatic conditions, no major calamities or outbreaks of new diseases/pests.

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	END OF PROJECT STATUS:	MEANS OF VERIFICATION	OUTPUT TO PURPOSE ASSUMPTIONS:
	<u>Sustainability</u> c)agricultural production patterns adopted which maintain or increase the productive potential (sustainability) of the natural resource base; <u>Equitability</u> d)distribution of the benefits of increased productivity favours lower income farm families.		
PROJECT OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	INTERMEDIATE OUTPUT TO OUTPUT ASSUMPTIONS
1. RESOURCE INVENTORY			
Biophysical, technical, and institutional resource inventory compiled and resource information management system developed for the target areas.	1.1 Physical resource agro-ecosystem inventory developed for the 9 target Tambons. 1.2 Database management system developed for MOAC/RTG agencies, private sector organizations, research and development specialists, and R&D projects in the 7 Project districts.	Soil/Land use maps published, survey reports, agro-ecological zone maps published, Tambon handbooks, agro-ecosystems analysis reports, computer programs, data files, printouts, site visit.	1. Officials of participating departments view the project as an opportunity to develop improved methodologies technologies and processes. 2. Basic understanding of FSRE and acceptance as appropriate approach to area development by MOAC officials. 3. MOAC officers increase support for more balanced top-down and bottom-up approach to development.

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PROJECT OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	INTERMEDIATE OUTPUT TO OUTPUT ASSUMPTIONS
2. PROBLEM IDENTIFICATION/ANALYSIS			
Techniques developed for identifying, compiling, and classifying problems and constraints to farming system performance.	2.1 Agro-ecosystem analysis workshop held for 9 Tambons and handbooks published in English;	Publications.	
	2.2 Area analysis conducted at the district level for all 240 districts in the region and published in 19 volumes;	Publications.	
	2.3 Rainfall analysis handbook for the entire region prepared and published;	Handbooks published.	
	2.4 Area-analysis methodology tested in one (1) full district at the Tambon level.	Reports, publications.	
	2.5 Training in area-analysis conducted and analysis completed by Tambon extension agents in 10 Tambons.	Training reports, contractor reports, publications, site visits.	

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PROJECT OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	INTERMEDIATE OUTPUT TO OUTPUT ASSUMPTIONS
3. PROBLEM PRIORITIZATION			
Approaches developed for determining priority problems for research and development activities according to farmer needs.	3.1 Inter-disciplinary rapid assessment techniques tested and used for prioritizing problems addressed by cropping system research trials;	RAT team and workgroup reports, technical assistance reports, papers, documents.	
	3.2 Interactive process for Tambon planning used to prepare annual plans and prioritize development sub-project activities;	Tambon plans, contractor reports, working group reports.	
	3.3 Prioritized list of problems prepared for the target area.	Summary of problems by by priority.	
4. EXTENSION ANALYSIS/RECOMMENDATION			
Methodologies and procedures developed for reviewing and screening results of research and development activities to assess performance and get guidelines for further research, adaptation, or extension.	4.1 Technology triage methodology and procedures tested and used to screen results of cropping system trials.	Technology status documents, reports of workshops, methodology papers.	
	4.2 Cropping system trials data collection and analysis system developed using microcomputer data base management program.	Data collection forms, computer programs, data files, printouts, site visit.	
	4.3 Database developed for compiling information on proven farming systems technologies and processes, requisite conditions for and constraints to their appropriate application and adoption.	Computer programs, data files, printouts, site visit.	

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PROJECT OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	INTERMEDIATE OUTPUT TO OUTPUT ASSUMPTIONS
	4.4 Documentation prepared for promising technologies and processes developed by the Project covering: background, principles and justification, methods of application, results, use to date, potential applicability and expected benefits, pre-requisite conditions for use, and further development needed.	Documentation of promis-technologies and processes, economic analyses, mini-evaluations.	
5. PROJECT FORMULATION			
Area-based integrated sub-project design and planning approaches developed for linking primary and complementary activities which may be implemented by different agencies.	5. Proposals developed and implemented by workgroups show integrated design of enterprises/activities in water utilization, common land management, fish rearing in paddy fields, and full-cycle mixed farming production programs.	Sub-project proposals, progress reports, monitoring reports, workgroup meeting reports, site visits.	
6. ADAPTIVE RESEARCH METHODOLOGY			
Methodologies and procedures developed for applying Farming Systems Research and Extension approach in a manner compatible with existing HOAC resources and capabilities.	6. Adaptive research and extension methodologies and procedures tested, refined, standardized, documented, published in handbook format and used for cropping systems research and extension operations in the target areas.	Methodology papers, technical workshop reports, publications.	

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PROJECT OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	INTERMEDIATE OUTPUT TO OUTPUT ASSUMPTIONS
7. OPERATIONS COORDINATION			
Organizational structures, management processes, techniques, and procedures developed for coordinating implementation of multi-agency technology research and development operations.	7.1 Regional Farming Systems Work Group actively coordinating inter-disciplinary analysis, recommendation, planning and review of results of sub-project activities implemented under the Project;	Reports of meetings, seminars, workshops, implementation plans, proposals, progress reports.	
	7.2 Provincial level working groups established (4) which provide technical support and conduct monthly coordination meetings to plan and review results of operations.	Reports of monthly meetings, proposals, plans, monitoring reports, site visits.	
	7.3 Tambon Councils review draft annual activity plans, propose revisions/additions to plans, select sites for allocation of sub-projects, and oversee management of inter-village common land and water resource development activities.	Monitoring team reports, Tambon plans, contractor reports, site visits.	

OBJECTIVES: NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
PROJECT OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	INPUT TO INTERMEDIATE OUTPUT ASSUMPTIONS
	7.4 Village level farmer groups and cooperatives established which conduct group input purchasing, production, and marketing.	Reports, site visits, cooperative registration certificates.	
PROJECT INTERMEDIATE OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	INPUT TO INTERMEDIATE OUTPUT ASSUMPTIONS
1. Technologies and farming practices suitable to land, climatic, and socio-economic conditions tested, adapted, and promoted in the target area.	1. Technologies tested for key subsistence commodities, cash crops, animal husbandry, fisheries, water resource utilization, sericulture, fruit trees, land development and soil improvement.	Progress reports, monitoring reports, documentation of promising technologies, site visits, evaluations.	1. Adequate numbers of qualified MOAC personnel available.
2. Economic development of water resources for agricultural and domestic use.	2. Water structures (51), shallow wells (1,564), modified shallow wells (116), water filters (11).		2. RTG budgeting procedures adequate to support integrated implementation.
			3. Necessary agricultural inputs and commodities available.

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PROJECT INTERMEDIATE OUTPUTS	MAGNITUDE OF OUTPUTS		INPUT TO INTERMEDIATE OUTPUT ASSUMPTIONS
3. Demonstrations conducted to determine acceptable applications of technologies in target areas.	3. Land shaping (3,050 rai), land terracing (115 ha.), compost (1,180 tons), saline soil use for agriculture (650 rai), pasture improvement in common land (7,530 rai), Multi-enterprise common land use (126 rai), integrated village water resource utilization for farming systems approach (9 Tambons), consolidated models of technologies and processes (9 Tambons), full-cycle development projects (9 Tambons), village woodlots (3,000 rai), range management (1,500 rai), watershed management (1,600 rai), school fish rearing (26 schools), village fish ponds (75 villages).		4. Qualified TA personnel available. 5. Administrative management capacity of NDAC Departments adequate to support implementation.

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PROJECT INTERMEDIATE OUTPUTS	MAGNITUDE OF OUTPUTS	MEANS OF VERIFICATION	INPUT TO INTERMEDIATE OUTPUT ASSUMPTIONS
4. Adequate Extension and other agriculture support services provided and utilized in target areas.	4.1 Personnel trained: farmer specialists (998), Tambon extension agents (24), field managers (4) and assistants (4), subject matter specialists (12), livestock farmer specialists (1,172);		
	4.2 Facilities: Tambon centers constructed (8), weather stations equipped and operating (6);		
	4.3 Farmer organizations: establish farmer groups (47 groups), establish and register cooperatives (9 coops.).		
5. Marketing and economic studies, analyses, and surveys conducted.	5. Market surveys, group buying and selling surveys, price fluctuation studies, economic analysis of improved farming systems, and mini-evaluations conducted in all 9 Tambons.		

OBJECTIVES: NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
PROJECT INPUTS			
1. Personnel 2. Supplies and Equipment 3. Training 4. Technical Assistance 5. Admin./Management Support 6. Construction of facilities, water resources, land shaping, land terracing. 7. Funds for meetings, compost subsidy, seminars, per diem, lodging, travel. 8. Plant seed/fish seed/animal seed. 9. Funds for surveys, demonstrations, research. 10. Evaluation/monitoring.	(See Financial Plan and Annexes)	Project reports, evaluations, site visits.	

APPENDIX

The following NERADICS Working Papers are available on request from the Project Director:

NERADICS Problem Definition Series

P1 Effects of Paddy-bund-planted Eucalyptus Trees on the Performance of Paddy Field Crops. Craig, I.A. and Wasunan, S., 1987. (English)

P2 Overview of Rainfed Agriculture in N.E. Thailand. Craig, I.A. and Pisone, U., 1987. (English)

P3 The Upper Paddies in Northeast Thailand: The Current Situation and Implications for Development. Craig, I.A., and Baker, G.P., 1986. (English)

P4 Current Pest Management Problems Facing Farmers in Northeast Thailand: Key Research and Development Priorities. Katanyakul, W., Amaritsut, W., Keerati-Kasikorn, M. and Craig, I.A., 1987. (English)

P5 Problems and Opportunities for Farming System Based Annual Crop Development in Northeast Thailand. Craig, I.A., 1987. (English)

NERADICS Technology Documentation Series

T0 Executive Summary: NERAD Promising Technologies. Thamabood, S. (Editor), 1986. (Thai)

T1 Direct Sown Rice: a Cropping Systems Technology for the Upper Paddies in Northeast Thailand. Craig, I.A., Whattanabhuti, W., Sukapong, C. and Netpichit, W., 1986. (Thai and English)

T2 Cooperative Buying Groups in Thailand: Results of a Social Experiment. Meyer, A.L. and Infanger, C.L., 1987. (English)

T3 Modified Shallow Wells: a Farmer Developed Technology for Northeast Thailand. Craig, I.A., Phensupha, N. and Ragland, J.L., 1986. (English)

T4 Pre-rice Green Manuring: a Technology for Soil Improvement Under Rainfed Conditions in Northeast Thailand. Craig, I.A., 1987. (English)

T5 Papaya Rinspot Virus: Cross Protection for an Important Subsistence Crop in Northeast Thailand. Gonsalves, D. and Prasartsri, V. (English)

NERADICS Methodology Documentation Series

M1 A Cropping Systems Technology Development Process: the NERAD Model. Craig, I.A., Sukapong, C. and Suratikul, S., 1986. (Thai and English)

M2 Triage: a Methodology for Screening Agricultural Technologies and Prioritizing Research and Extension Activities. Craig, I.A. and Sukapong, C., 1987. (Thai and English)

M3 NERAD Project Agricultural Development Information and Coordination System (NERADICS): A Project Description. Hopkins, J., 1987. (English)

M4 The Rapid Assessment Technique (RAT): a Procedure for Identifying Farmer Problems and Development Opportunities. Alton, C. and Craig, I.A., 1987. (Thai and English)

M5 Key Characteristics of the NERAD Full-cycle, Integrated Development Models. Songlin, R., 1987. (Thai)

M6 The NERAD Logical Framework: a Project Design Summary for Planning, Monitoring and Evaluation. NERAD Project Management Team, 1987. (English)

M7 Crop Protection and IPM for Rainfed Cropping Systems in Northeast Thailand. Amaritsut, W., Prasartsri, V. and Craig, I.A., 1987. (English)