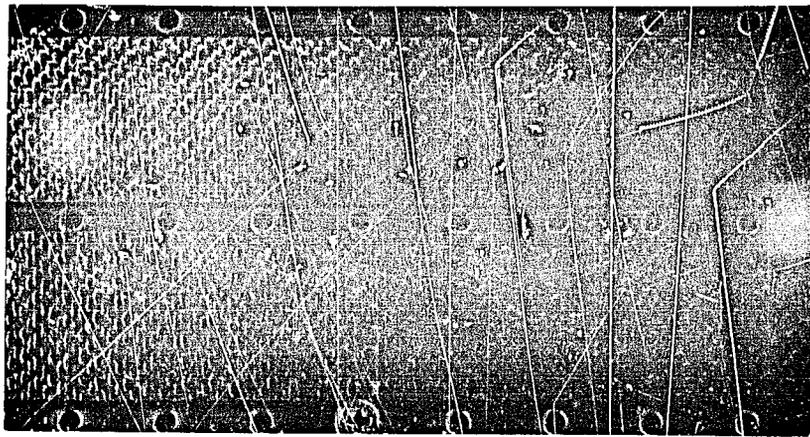


THE
INSPECTOR
GENERAL



Regional Inspector General for Audit
MANILA

LAM NAM OON INTEGRATED AGRICULTURE
PRODUCTION PROJECT

PROJECT # 493-0272
LOAN # 493-T-020

USAID/THAILAND

Audit Report No. 2-493-83- 02
January 26, 1983

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
BACKGROUND	1
SCOPE	2
AUDIT FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	2
Ambitious Planning Slows Progress	2
Project Evaluation and USAID/T Management	3
Utilization of Loan Resources	3
Procurement of Canal Operation and Maintenance Equipment	4
Louis Berger International, Inc. (LBII)	5
Technical and General Support Costs	8
Exhibit "A" - Status of Loan 493-T-020, June 30, 1982	9
Exhibit "B" - Louis Berger, Int'l., Inc. Status of Contract Costs, July 31, 1982	10

EXECUTIVE SUMMARY

Lam Nam Oon (LNO) is an irrigation project located in Northeast Thailand. The Royal Thai Government's (RTG) Royal Irrigation Department (RID) reports the equivalent of \$65 millions invested in the project of which AID provided \$3.5 millions in 1967 and \$4.5 millions under loan 493-T-020 signed January 20, 1978. The LNO project is presently designed to provide irrigation to 43,000 acres during the dry season and 74,000 acres during the wet season; benefitting 12,500 small farmer families. The purposes of audit were to evaluate project accomplishment, compliance with terms of the project loan (493-T-020) agreement and review the propriety of costs.

Ambitious project planning of loan 020 as an integrated rural development effort involving an integrated program of community development, health and family planning review contributed to the delay in the rate of implementation. In June 1982, the project was redesigned to emphasize a more discrete focus on the water delivery system and agriculture production and marketing. A recommendation in this area is not considered necessary (p 2).

USAID/Thailand had identified a potential for deobligation of loan 020 funds. An analysis of estimated loan fund requirements for FY's 82/83 combined with the actual disbursement of FY's 80/81 indicates as much as \$1 million may be available for deobligation. We have recommended that USAID/Thailand determine loan 020 fund requirements and negotiate with the RTG for deobligation of loan 020 funds not required for project purposes (p. 3 & 4).

Five years after signing of the loan 020 agreement, no procurement actions had been initiated for \$1,640,000 budgeted for the purchase of Operation and Maintenance equipment. We have recommended the USAID/Thailand develop a procurement plan and timeframe to guide the efficiency of procurement or negotiate with the RTG for deobligation of these funds (p. 4 & 5).

The RTG marketing mechanism for the 1981/82 dry season groundnut production was not an effective market force. We have recommended the USAID/T review the agriculture marketing system with the RTG and modify the LBII contract to emphasize effective marketing alternatives for the Lam Nam Oon project (p. 6 & 7).

BACKGROUND

In the early 1960's the Royal Thai Government (RTG) requested loan assistance from AID for construction of irrigation projects. The request for loan assistance at Lam Nam Oon (LNO) was originally submitted to AID in 1963 and AID Loan 493-H-013 for \$3.5 millions to assist with construction of the Lam Nam Oon Dam and irrigation project was authorized in 1967 after a number of feasibility studies were conducted by the Royal Irrigation Department (RID) and by the U.S. Bureau of Reclamation. In mid-1974 RID requested another loan for completing the on-farm development of the LNO which resulted in AID Loan 493-T-020 for \$4.5 million dated January 20, 1978. Through 1981, the Lam Nam Oon Project Office reports the RTG has invested the equivalent of \$65 million in the project. AID's financial contribution through two loans comprises approximately 10% of total project costs.

The LNO project is designed to provide water to about 43,000 acres during the dry season and supplementary water in the wet season to raise paddy field flood levels, if necessary, in the 74,000 acres project area benefiting about 12,500 farm families who own and work the small farms of the project area. As reformulated in 1977 the project has two related goals: (1) to improve the standard of living through provision of water for double cropping and (2) to develop and demonstrate an innovative approach to decentralized, locally based integrated rural development.

The main physical features of the irrigation system include the dam, reservoir, 345 km of concrete lined mains and lateral canals, 75 km of drainage canals, and 100 km of feeder and maintenance roads, an administration building and training school. Main dam construction was completed in 1971 by RID. In the period from 1972 to 1979 the left and right main canals (cement lined) and their laterals (cement lined) were completed by RID. In 1980, the last of four electrically powered pumping stations were installed by RID on certain canals and became operational for the 1980/81 dry season (December-May).

In 1978, the RID began to design and install on-farm ditch distribution systems from the laterals into farming areas. A total of 1,926 kilometers of farm ditches are scheduled to be installed by RID by the end of 1985. Presently, about 10% of the total farm ditching installation required or 192 kilometers have been completed. Present plans call for accelerating the pace of installation to about 500 kms/year during the dry seasons of 1982/83, 1983/84, 1984/85. While this construction work is going forward, completed portions of the on-farm ditch systems are being operated and water is also flowing through the main canals and laterals into all fields where the traditional wet season farm ditches exist.

The AID loan is designed to provide technical assistance, general support

costs, and the purchase of equipment for canal operations and maintenance; areas identified by AID as critical to the success of the LNO project. The reader is referred to Exhibit "A" for a presentation of the status of loan funds at June 30, 1982.

SCOPE

This is our first audit of the Lam Nam Oon Project funded by Loan 493-020. It covered the period from January 20, 1978 to June 30, 1982 for project disbursement, and to October 1982 for general project implementation. As of June 30, 1982, \$1,314,292 had been expended under Loan 493-T-020. Audit objectives were to evaluate project accomplishment, compliance with terms of the project agreement and propriety of costs incurred by the project.

Our audit was performed in accordance with standards for governmental audits, and included (1) a review of records and discussions with project officials of the Royal Thai Government (RTG) and USAID/T (2) a field trip to inspect the project site; and (3) such other auditing procedures as we considered necessary.

USAID/T comments on our draft audit report were considered in the preparation of the final report.

AUDIT FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Ambitious Planning Slows Progress

The broad structuring of the project has been recognized by USAID/T as a major cause of delay in the rate of implementation.

The Lam Nam Oon project was planned as a joint RTG/AID integrated rural development effort consisting of an irrigation system, feeder roads for farmers and an integrated program of community development, agricultural research and extension, marketing, health and family planning services, and adult education.

By mid - 1981, with the implementation of AID loan 020 resources floundering, an AID/PPC evaluation was made which resulted in a redesign of the project from an emphasis on integrated rural development to an emphasis of integrated agricultural production. The redesign plan (Project Implementation Letter No. 14 effective June 25, 1982) narrowed the scope of project activities under the AID loan to the priority areas of expanding water delivery and use and intensifying irrigated agricultural production. The integrated rural development activities in community development, health and education services will not be financed during the remainder of the project from AID loan funds, although such activities will continue in the Lam Nam Oon area under regular RTG national programs.

The consensus of RTG and USAID/T officials and the U.S. host country contractor is that the Lam Nam Oon project is now more discretely focused and manageable as a water delivery system and agricultural production

project. As a result of the June 1982 project redesign, a recommendation in this area is not considered necessary.

Project Evaluation and USAID/T Management

Paragraph F. (2) of the loan 020 authorization required joint evaluations in 1978 and 1980. No joint evaluations were held then however, a major joint evaluation was made in 1981. As a result of the 1981 evaluation the project was redesigned and extended six (6) months to September 30, 1983.

The first socio-economic survey was completed in 1981; an AID/PPC evaluation (No. 46) was completed in September 1982 and the major socio-economic survey based upon the 1976 baseline data is planned for 1983.

The USAID/T project officer visits the Lam Nam Oon project site for several days each month. Field trip reports were submitted by the project officer to USAID/T management as a managerial guidance tool to monitor project status and progress.

Five technical evaluations by agricultural and other experts, funded under AID/W regional projects were identified during our review. Those experts worked closely with the LNO project personnel and the results of their efforts shared with LNO and RTG personnel. Our discussions with LNO project officials indicate the evaluation reports were useful although that assessment is difficult to quantify or qualify.

Utilization of Loan Resources

Actual disbursement under loan 493-T-020 at June 30, 1982 is 29% of the level planned in the original project paper and loan agreement. A probability is that \$500,000 to \$1,000,000 of the loan may be in excess of project needs and can be de-obligated. The following schedule compares the planned loan disbursement timeframe with actual disbursements as of June 30, 1982.

	<u>Disbursement</u>	
	<u>Planned</u>	<u>6/30/82 Actual</u>
FY 1978	\$ 2,642,000	-0-
FY 1979	500,000	-0-
FY 1980	330,000	\$ 523,389
FY 1981	242,000	394,126
FY 1982 ^{1/}	182,000	396,777
Contingency and in - flation	<u>604,000</u>	<u>-0-</u>
Total Loan	<u>\$4,500,000</u>	<u>\$1,314,292</u>

^{1/} The Project Assistance Completion Date (PACD) has been extended to September 30, 1983.

Project Implementation Letter (PIL) No. 14 effective June 25, 1982 estimated a budget requirement of \$2,498,000 for FY's 82 and 83 from loan 020. The estimated fund requirement for FY's 82/83 combined with the actual disbursements of FY's 80/81 provides a loan funding requirement level of \$3,415,000 or \$1,085,000 less than the loan authorization.

The USAID/T, in recognition of a potential for deobligation of Loan 020 funds, notified AID/W in May 1982 that a proposal was being made to the RTG Ministry of Finance to deobligate \$500,000 and possibly more at a subsequent date. In July 1982, USAID/T notified AID/W that RTG concurrence to the proposal to deobligate \$500,000 had not received clearance of concerned RTG Agencies but that a formal concurrence letter would be sent to USAID/T soon. In September 1982, USAID/T notified AID/W that the RTG no longer concurred in a deobligation of \$500,000 but rather will seek USAID agreement to a two-year extension of the project beyond the current project completion date of September 1983. At the completion of our fieldwork a decision on whether to deobligate funds under loan 020 had not been made.

Recommendation No. 1

USAID/Thailand determine loan fund requirements under loan 020 and negotiate any deobligation action for funds not required for project purposes.

Procurement of Canal Operation and Maintenance Equipment

\$1,640,000 of loan 020 funds are budgeted for the procurement of Operation and Maintenance (O&M) equipment for use on the LNO canal system. Five years after signing the loan agreement no procurement actions for O&M equipment had been initiated because of a one percent (1%) withholding tax required by section 69 of the RTG revenue code. In December 1980, USAID/T notified the RTG Minister of Finance that the direct taxation of a U.S. Government expenditure is against the terms of the bilateral project loan and grant agreements. The USAID/T was notified in October 1982 the RTG 1% tax on procurement had been resolved for AID projects and the USAID was in the process of initiating procurement financed by AID loans and grants. A procurement specialist was requested by USAID/T from AID/W to determine equipment specifications for the LNO project and is scheduled to be available in early CY 1983.

The Royal Irrigation Department (RID) Operations and Maintenance Division at LNO does not have the equipment required to maintain the canal system. During the first months of 1982, RID used construction equipment to clean out the two main canals for the first time in 10 years; they did not have the time to reach the laterals or sub-laterals. RID estimates the present rate of canal cleaning can be accelerated to twice to three times the current rate when they receive the equipment on the AID list. The equipment maintenance facilities constructed by RID at LNO will remain after the construction division withdraws.

Recommendation No. 2

USAID/T (1) develop a procurement plan and timeframe to guide the efficiency of procurement of the canal Operation and Maintenance Equipment for Lam Nam Oon, and (2) as necessary, negotiate with the RTG for deobligation of any excess equipment procurement funds.

Louis Berger International, Inc. (LBII)

On October 12, 1979 the RTG engaged LBII under a host country contract (493-0270-01 HCC) funded by loan 020 in the amount of \$1,092,520. The original contract required LBII to provide 147 man/months of technical advisory services in the following areas:"

- Liaison with the National and Provincial Coordinating Committees on matters pertaining to the project plan and project implementation.
- Assist the Royal Irrigation Department (RID) develop annual work programs.
- Assist RID in completion of the main irrigation system, drainage system, irrigation water re-use systems, on-farm works, and the project road network.
- Advise RID on all materials and equipment procurement.
- Coordinate all operational research programs in the three pilot areas.
- Integrated rural development activities in community development, health and education services.

A redesign of the project under Project Implementation Letter (PIL # 14) effective June 25, 1982 directs the focus of the LBII and AID inputs to the priority areas of expanding water delivery and use and intensifying irrigated agriculture production. The redesign excludes the integrated rural development activities in community development, health and education from AID financing during the remainder of the project although such activities will continue in the Lam Nam Oon area under regular RTG national programs.

In August 1982, LBII submitted a proposal to the RTG and USAID/T to amend the contract. The contract proposal seeks an increase of \$532,178 from loan 020 funds and Baht 1,412,000 (\$61,391 equivalent) from the RTG, an increase in man/months from 147 to 202 and a contract termination date of September 30, 1983. At the completion of our field work in October 1982, the proposed amendment was under negotiation.

As of July 31, 1982, \$742,191 or 68% of the \$1,092,520 contracted amount under loan 020 for the LBII contract had been expended (Exhibit "B"). The Expatriate Staff cost of \$937,872 represents 86% of the total contract

amount and is an aggregate of a standard billing rate for direct salary, 112.3% of direct salary as overhead, 10% profit and a direct salary post differential of 10% for overseas staff. We were unable to verify actual costs against standard billings for the Expatriate Staff cost category as the accounting records are maintained at the LBII home office in the USA.

In the early stages of our audit we asked the Regional Inspector General for Audit in Washington (RIG/A/W) for assistance in verifying the LBII overhead rate (Manila 19762). In response, (S:ATE 235439) the RIG/A/W notified RIG/A/Manila that an audit of LBII was scheduled to commence in the fourth calendar quarter of 1982. Any recommendations as a result of the RIG/A/W audit of LBII will be forthcoming in that report.

USAID/Thailand is authorized under a Direct Reimbursement Authorization (DRA) to process LBII voucher requests for reimbursement. The LBII Branch Office, in Bangkok, prepares a monthly voucher for reimbursement; processes each voucher through the appropriate RTG Offices for reimbursement authorization and presents each voucher for payment at USAID/T. Each voucher is reviewed and approved for payment by the USAID/T Project Officer, certified for payment by a certifying officer of the USAID/T Controller's office. As a result of the USAID/T voucher review process, \$6,329 had been disallowed from LBII reimbursement requests. As of July 31, 1982, \$88,697 had been disbursed to LBII for in-country expenditures in the cost categories of Thai Professional Staff, International travel, report preparation and printing, shipment of effects, communication cost and miscellaneous supplies. (Items 2 thru 7-Exhibit B). We reviewed documentation in support of those expenditures and concur in the allowability of those reimbursed costs.

LBII Progress Toward Objectives

The major engineering works are complete and functional. The on-farm water delivery system, the phase currently under construction by the RID, has been completed for 15,000 Raf. (6,000 acres) and is scheduled for completion at the end of 1985 when 176,000 Raf (70,400 acres) are planned to be irrigated through controlled and managed canal and on-farm water systems. During our site visit in October 1982, we inspected the dam, the full length of the two main canals and observed lateral canals and on-farm installations at random. Water systems were operational during our site visits.

The two LBII engineering advisors at Lam Nam Oon utilized micro-computer technology to check equations for the design of on-farm water systems, development of a tertiary drainage coefficient and the development of a rainfall analysis study. Another service developed and programmed on the micro-computer was the gathering, accessioning, analysis, and retrieval of this year's 1981/82 dry season cropping data.

The other major objective of the LBII contract team is to develop a market situation which contains limited or no risk to farmer-cultivators at Lam Nam Oon. Endeavoring to encourage more farmers to cultivate crops is not easy because farmers of the Northeast have never cultivated under irrigated dry season conditions. During this year's dry season (1981/82) a total of 5,500 Rai (2,200 acres) received irrigation water through the new on-farm ditches that had been completed. Another 20,000 Rai (8,000 acres) received irrigation water through the main canals and laterals and into the traditional wet season farm ditches. Approximately 8,000 Rai (3,200 acres) of groundnut were grown at Lam Nam Oon in last year's dry season of 1980/81. That was the first irrigated dry season in which such a major expansion in irrigated cropping took place. The principal reasons for this included a reliable supply of water to fields and a Baht 8 "floor price" on groundnuts with no limit on the area to be cultivated or the quantities to be purchased.

In this year's dry season at Lam Nam Oon, 1981/82, the RTG pursued a different policy. The "floor price" on groundnuts was dropped to Baht 7 per kilo and the area of eligible cropping dropped to 2,500 Rai (1,000 acres). Groundnut production in 1981/82 dropped to 1,740 Rai (696 acres) and total area cropped dropped to 5,500 Rai (2,200 acres).

The downward push of the 1981/82 policy on dry season production is all the more significant in showing farmer sensitivity to risk factors because the supply and reliability of irrigation water at Lam Nam Oon in this year's dry season was better than last year's 1980/81 dry season. All the groundnut production, estimated at 300 tons, from the 1981/82 dry season was sold almost totally to the private sector. The RTG marketing mechanism was not an effective market force. RTG personnel arrived 2 weeks later than their scheduled buying date without the bags which they required farmers to use and without money to buy the groundnuts. In mid-June RTG personnel were gathering sworn statements from Lam Nam Oon farmers and project staff saying there were no groundnut left for them to buy. Fortunately the Lam Nam Oon field staff did not depend upon the RTG to buy the groundnut crop. The LBII marketing consultant had contacted several groundnut traders in the Northeast and Bangkok, and as a result one trader purchased 30% of the Lam Nam Oon groundnut production. At the time of our field visit in October 1982, that trader had broken ground for the construction of a groundnut shelling facility at Lam Nam Oon. Agricultural stations throughout the Northeast purchased approximately one-third of the crop for seed. The remainder of the crop was purchased by local traders and other small Northeastern speculators for local consumption. The price paid by all buyers ranged between 6-8 baht/kilo. The RTG support price was 7 baht/kilo.

Recommendation No. 3

USAID /T review the agriculture marketing system with the RTG and modify the LBII contract to emphasize effective marketing alternatives for the Lam Nam Oon Project.

Technical and General Support Costs

\$1,090,800 of loan 020 funds are earmarked for technical and general support for the following RTG implementing Agencies:

Department of Public Welfare
Non-formal Education
Community Development
Fisheries
Agriculture Extension
Agriculture
Agriculture Economics
Royal Irrigation Department

At June 30, 1982, \$556,000 or 50% of the amount budgeted for support costs were disbursed. (Exhibit "A"). We reviewed reimbursement vouchers submitted to USAID/T and the summary documentation submitted in support of those vouchers and found no discrepancies.

During our visit of the LNO project site in October 1982, we inspected the non-formal education facilities, farmer fisheries, three (3) Agriculture Extension greenhouses constructed with loan 020 funds. All facilities were well constructed and operational at the time of our visit.

EXHIBIT A

USAID/Thailand
Lam Nam Oon Integrated Rural Development - Project 0272
Status of Loan 493-T-020 funds
June 30, 1982

	<u>Obligation</u>	<u>Earmarked</u>	<u>Disbursed 6/30/82</u>	<u>Pipeline</u>
<u>Infrastructure</u>	<u>\$1,741,000</u>	<u>\$1,730,000</u>	<u>\$ 73,507</u>	<u>\$1,667,493</u>
Equipment for Canal Maint.		(1,640,000)	-0-	(1,640,000)
Construction of Proj. Office		(90,000)	(73,507)	(16,493)
<u>Technical & Gen. Support</u>	<u>1,090,800</u>	<u>1,090,800</u>	<u>555,960</u>	<u>534,840</u>
Depart. of Publ. Welfare		(307,900)	(46,859)	(261,041)
For Following Depart.		782,900)	-0-	(273,799)
Non-Formal Educ.			(143,120)	
Community Development			(127,804)	
Fisheries			(77,669)	
Agriculture Extension			(58,168)	
Agriculture			(55,832)	
Agriculture Economics			(33,439)	
Royal Irrigation Dept.			(13,069)	
<u>Consultant Services</u>	<u>1,093,000</u>	<u>1,092,520</u>	<u>684,825</u>	<u>408,175</u>
Louis Berger Int'l., Inc.		1,092,520	(684,825)	(408,175)
Other/Unearmarked	575,200	-0-	-0-	575,200
	<u>\$4,500,000</u>	<u>\$3,913,320</u>	<u>\$1,314,292</u>	<u>\$3,185,708</u>
	(a)	(b)	(c)	(d)

Note: (a) - (c) = (d)

USAID/Thailand
Lam Nam Oon Integrated Rural Development-Project 0272
Louis Berger, International, Inc. (LBI)-Contract 493-0270-01HCC
Status of Contract Costs-July 1, 1982

	<u>Obligated</u>	<u>Expended</u>
1. Expatriate Staff Cost	937,872	\$ 653,494
2. Thai Professional Staff	70,842	33,445
3. International Travel	43,806	27,971
4. Report Preparation & Printing	15,000	12,901
5. Shipment of effects	12,000	7,628
6. Communication Cost	8,000	3,645
7. Miscellaneous Supplies	5,000	3,107
	<hr/>	
Total	<u>\$1,092,520</u>	<u>\$ 742,191</u>

NOTE 1 - Expatriate Staff Cost includes direct salary, 112.3% Overhead rate, 10% profit and 10% of salary post differential for overseas staff.

REPORT RECIPIENT

USAID/Thailand

Director 5

AID/W

Deputy Administrator 1

Bureau for Asia:

Assistant Administrator 2

Deputy Assistant Administrator (Audit Liaison
Officer) 1

Office of the Philippines, Thailand & Burma
Affairs (ASIA/PTB) 1

Bureau for Science & Technology:

Office of Development Information & Utilization
(S&T/DIU) 4

Bureau for Management:

Assistant to the Administrator for Management 1

Office of Financial Management (M/FM) 5

Accounting System Division (M/FM/ASD) 1

Office of the Inspector General:

Inspector General (IG) 1

Executive Management Staff (IG/EMS) 12

Policy, Plans & Programs (IG/PPP) 1

Office of Legislative Affairs (LEG) 1

Office of the General Counsel (GC) 1

Office of Public Affairs (OPA) 1

OTHERS

Inspector Generals

RIG/A/Washington 1

RIG/A/Nairobi (Africa East) 1

RIG/A/Abidjan (West Africa) 1

RIG/A/Cairo (Egypt) 1

RIG/A/Karachi (Near East) 1

RIG/A/Latin America 1

RIG/II/Manila 1