

**AIRGRAM**

**DEPARTMENT OF STATE**

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4930206(2)  
10-ADD-637-B

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TO - AID/W TOAID A- 2973 XX

A.I.D.  
Reference Center  
Room 1656 NS

FROM - BANGKOK

SUBJECT - Non-Capital Project Paper (PROP)

REFERENCE - Labor-Intensive Water Development (NEED)

NON-CAPITAL PROJECT PAPER (PROP)

Country : Thailand Project No. : 493-11-120-206

Submission Date : June 7, 1968 Original

Project Title : Labor Intensive Water Development Project (NEED)

U. S. Obligation Span : FY 1968 through FY 1971

Physical Implementation Span : FY 1969 through 1972

Gross Life-of-project Financial Requirements:

U.S. Dollars 1,723,000

U.S. Owned Local Currency None

Cooperating Country Contribution 4,197,780  
(\$ equivalent)

(One Dollar = 20 Baht)

Other Donor None

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I. Summary Description Including Tabulation of Planned Inputs

The purpose of this project is to assist the Royal Thai Government to stimulate the economy of the Northeast by providing water and employment through a comprehensive program of labor-intensive water storage, distribution, and utilization. The construction of new ponds, tanks, and related canals and canal structures, and the rehabilitation of existing systems 1) will provide the laborers (chiefly farmers) with a source of income they now lack, helping them avoid the current practice of resorting to money-lenders during the dry season, 2) will favorably influence their perception of the government's concern for their welfare and give them a vested interest in the facilities being constructed, 3) provide Northeast farmers with a much-needed supply of water for agricultural and domestic use, and 4) influence the RTG to provide them with extension services in the use of this water to raise agricultural production.

This project is an expansion of the labor-intensive water-storage project previously being considered by the Mission. As this project was considered by the NEED Working Groups on Water Resources and Agriculture, the inter-related aspects of water distribution systems and water utilization capability have been built into it. The project as proposed herein includes U.S. inputs of 1) equipment for building initially 12 new water storage tanks and distribution systems in the Northeast; 2) equipment for constructing and rehabilitating distribution systems for initially 9 existing Royal Irrigation Department water storage tanks in the Northeast; and instituting a program for proper utilization of the water, both through Irrigation Users Associations and through agreement by the Ministry of Agriculture to provide extension services to the areas to be affected by the new and rehabilitated distribution systems.

The project will be administered primarily by the Royal Irrigation Department, Ministry of National Development, with the cooperation of the Ministry of Agriculture. The new tanks identified with this project must meet the following criteria: (1) be located in the sensitive areas in the Northeast, (2) be small enough in size to permit construction in approximately one year with the maximum use of labor and the minimum use of equipment, (3) be located where the local people evidence a strong need for and interest in such a water project, and (4) be located in areas which soil surveys show can be physically and economically irrigated and cropped. Irrigation systems to be rehabilitated must meet the same criteria. The Royal Irrigation Department has tentatively selected the

location of the new tanks as well as the systems to be rehabilitated. These selections will be checked against the above criteria, with a report giving appropriate documentation of findings prior to the final designation of project locations. The RID will provide the required surveys and designs, will provide skilled operators of equipment and supervision of construction, will handle payment to the laborers, and will operate and maintain the tanks and main water conveyance systems when completed. Organization of farmers into associations to be responsible for delivering water to individual farm units, for the efficient utilization of irrigation water, for drainage systems where required, and for the introduction of sound farm management practices will also be a criterion for selection specific areas to be served. In this work the Associations will be assisted by the concerned RTG Departments, particularly the Extension Division of the Ministry of Agriculture, and the Departments of Land Development and Land Cooperatives, in the Ministry of National Development. A plan of work for this aspect of the program will be developed prior to the initiation of activity on a specific project, approved by the agencies concerned including the appropriate provincial officers.

PART A)                    New Water Storage and Management Facilities and Distribution Systems

The USG contribution to this portion of the project will be to furnish the major quantity of imported equipment required for the construction of twelve tanks in three years emphasizing labor-intensive methods. Equipment spreads are designed to maximize the use of labor without sacrifice of quality: (e.g. cement mixers will be used to assure uniform quality). A spread will consist of trucks, earth compaction and testing equipment, small concrete mixers, air compressors, concrete vibrators, pumps, welding equipment, surveying equipment, and a generator, and will be supplemented by additional RID equipment as required to complete the six spreads. As the life of each piece of equipment in the spread is variable, equipment which wears out earliest will be replaced by RID's own stock to maintain a full working spread for use after completion of the twelve tanks and systems on other projects in the second RID plan and projects yet to be developed in the 3rd RID five-year plan. Each spread of equipment must be ordered in the fiscal year prior to the year it is to be used and each spread of equipment should be capable of assisting in the placement of approximately 100,000 to 110,000 cubic meters of embankment

in the coming year. The unit cost of the equipment spread will be maintained at \$200,000 each, but individual items may be changed when successive spreads are ordered as warranted by experience. Details of the equipment spreads are shown in Table II. The fiscal obligation and construction schedules for the twelve new tanks are as follows:

	<u>FY 1968</u>	<u>FY 1969</u>	<u>FY 1970</u>	<u>FY 1971</u>	<u>FY 1972</u>	<u>Total</u>
U. S. \$	200,000	400,000	400,000	200,000	--	1,200,000
RTG B (1,000)	--	-- 1/	30,834.6	27,404.0	17,530.0	75,768.6
RTG \$ Equiv.	--	--	1,541,730	1,370,200	876,500	3,788,430

Construction Schedule

New Additional/Tanks & Distribution Systems Completed....	0	0	2	4

These new tanks will be located in the following Northeast ARD provinces: Nakhon Phanom, Kalasin, Sakon Nakorn, Nongkhai and Ubol (See Table for exact location).

The 12 tanks and distribution systems proposed for initial construction are contained in the RID's regular long-range program, but were scheduled after the current five-year program. With USOM assistance it will be possible to add them to the current five-year program, thus raising the total number of tanks and distribution systems to be completed in the five years from about 30 to 42. To meet this accelerated schedule, the RID will assign additional staff to the Northeast to handle the necessary topographical surveys and mapping, including hydrological, geological, and soils investigations in order to prepare layouts and designs. The RID will also provide, through assignment

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1/ RID engineering survey and design work and soil surveys will be conducted in FY 1969 from budget funds not specifically allocated to this project.

to the Northeast, the necessary additional skilled technicians, mechanics, and operators of equipment, supervise the construction, and handle the payroll of the estimated 3,000 local laborers to be employed. The RID will make B 75.76 million available through 1972 (Table I, col. 6) for construction cost to be specified in the Project Agreement which will be signed by the Director of the RTG Budget Bureau. Finally, the operation and maintenance of the completed project will be under the care of RID.

PART B)                    Rehabilitation and Construction of Distribution Systems  
From Existing Tanks

A companion program of rehabilitating water delivery systems associated with previously built tank projects is included in the proposed project. Nine Northeast tanks have been tentatively identified for the initial year's rehabilitation effort. Upon completion of nine such tanks, the equipment provided under this program will be used on other of the more than 100 existing tanks in the Northeast as jointly agreed upon by USOM and RID.

The purpose of this project component is to conserve water by rehabilitating and lining existing unlined canals and to insure delivery to farms through the construction of field dikes and ditches including drainage systems. Also included is a capability for lifting dead storage water into canals at certain existing projects where water demands have consistently exceeded available supplies during dry seasons. Training of farmers in efficient water utilization and farm management practices is an integral part of this program.

This part of the project will require U. S. contributions for imported survey and construction equipment and pumps (See Table IV), and for assistance from USOM staff. It will also include training abroad for a limited number of RID technicians. This will consist of two scholarships of one year each for advanced study in the U.S. in irrigation engineering practices, plus four technicians to receive short term training (probably in Taiwan) in practical irrigation and farm management. All participants will serve in the Northeast for a minimum of one year following training. A one-time purchase of equipment (\$366,000) for this part of the project is proposed for obligation in FY 1968. The RTG will provide all local costs, estimated at B 8,115,000 in construction expenditures in RTG FY 1969.

For the distribution systems in this part of the project, the RID will provide the required engineering surveys, layout and construction for conveyance of water and appurtenant structures for water control, from storage areas to the farm, including pumping of water and payment of laborers and equipment operators.

The pump component of this project (\$265, 000) is especially important to include from FY 1968 funds, as these can have an immediate impact in the Northeast in the event of a particularly dry year (such as last year) when some water remains in the tank below the duct or ground level which cannot be used for want of a pump.

The respective fiscal obligations for this portion of the project are as follows:

	<u>FY 1968</u>	<u>FY 1969</u>	<u>FY 1970</u>
U. S. \$	366, 000	12, 000	-0-
RTG Baht	---	8, 187, 000	--- *
RTG \$ Equiv.	---	409, 350	--- *

(See Table IV for details)

\* To be negotiated.

#### PART C) Water Utilization Program

Irrigation users associations will be formed to facilitate the efficient utilization of irrigation water to construct drainage systems where required, and to aid the introduction of sound farm management practices. The formation of such associations will be made a precondition by RID for a decision to proceed with construction of the water systems in the areas tentatively selected. The Ministry of Agriculture has agreed to provide additional extension services in water utilization in the areas to be served, to be specified in an amendment to the agricultural extension project agreement now being developed.

In the selection of suitable sites for storage and irrigation, the RID will be guided by soil surveys and land classification studies of the Department of Land Development.

The Department of Land Development will provide technical on-site assistance to farmers in the design, layout and construction of farm irrigation systems including land leveling. Seven mobile teams of the DLD have been trained, have transportation and survey equipment, and are available in the areas proposed for these systems to provide on-site assistance to farmers in the utilization of water. In addition, a mobile soil survey team is available for making detailed soil surveys. It is planned that these teams will be committed through an amendment to the existing FY 1968 Pro-Ag on soil and water development.

The Ministry of Agriculture, through the Departments of Agriculture, Rice, Livestock and Extension, will provide assistance in crop varieties, disease and insect control, cropping patterns and use of fertilizers, under an irrigated system of intensive cropping. The Department of Fisheries will also be asked to provide technical and on-site assistance as appropriate.

PART D)

Sub-project for Cooperative Land and Water Management Development

As a separate but related sub-project of the Labor-Intensive Water Development Project, the Mission is exploring the possibility of assisting the Department of Land Cooperatives with equipment to develop land and water resources, build roads, and establish other public services, initially at the multi-purpose cooperative in Amphur Noen Soong, Changwad Korat and later at other of the Land Conservation Cooperatives in Korat and other Northeast Changwads. This project has been submitted through the NEED Working Group on Agriculture.

Assisting cooperatives in Korat can fill a gap existing in cases where water resources development projects are too small to be included in RID irrigation projects and have not been included in the ARD program. Cooperative systems are another tool to bring the irrigation activities of the RTG down to the farmer. The people's contribution in developing small dams or weirs is high. RTG

services to the cooperatives provide technical knowledge in land and water resources development, including dissemination of cooperatives procedures, engineering feasibility surveys for water resources; and a survey of economic conditions. The Department of Land Cooperatives' survey has shown that it would be feasible to develop such a cooperative at Amphur Noon Song in Korat.

The Mission is tentatively including \$145,000 of FY 1968 funds for the purchase of one equipment spread for use by the DLC in this and subsequent cooperatives to be organized. Details of the equipment are shown on Table VI.

## II. Setting and Environment

The region in which this water development program will be carried out is a semi-arid plateau. Heavy rainfall occurs for only a few months each year and without irrigation facilities must be used immediately. As the monsoon rains occur irregularly, storage of water for use as needed for agriculture becomes essential if crop yields are to be satisfactory or safeguarded. Currently yields of rice, the principal crop, fluctuate extensively from year to year, with the harvest often dropping below the subsistence level in certain localities.

Also, one of the chief problems is the lack of opportunity for the villagers to earn a cash income. At present the extremely limited sources of cash income are: (a) sale of surplus agriculture products, if any, (b) proceeds from small cottage industries such as basket weaving, and (c) occasional odd jobs. Under these conditions any natural calamity such as floods, droughts, poor crops or crop failures, etc., create undue hardships for the people and make them vulnerable to communist subversion.

## III. Strategy

The overall strategy of the project is a two-pronged effort to produce employment and to increase effective water utilization. Injecting substantial amounts of payroll cash into the communities affected--in the case of the new tank program,

some of the most sensitive amphurs--will not only relieve hardships for the individuals provided employment, but will through a multiplier effect stimulate the economy of the area. Also, employment on this project should provide the villager with a vested interest in his local and national government at the start of the program, instead of several years later at the completion of the structure, as is the case with many projects. Any terrorist interference with the program may elicit the disfavor of the villager because it would strike directly at a project from which he is personally benefitting, and in which he has participated in developing.

A secondary strategy of the project is to influence the integration of the planning of the RID, Department of Land Development, and Department of Land Cooperatives, all of the Ministry of National Development; and the Agriculture, Extension Services, Rice, and Fisheries Departments, all of the Ministry of Agriculture.

#### IV. Planned Targets, Results, and Outputs

Twelve additional tanks and distribution systems will be completed by the end of calendar 1972, raising the total in RID's 5-year plan from about 30 to 42. Tank and distribution system construction is expected to employ about 2,000 laborers in RTG FY 1970, 2,400 in FY 1971, and 3,000 in FY 1972. On the average, each of the 12 tanks will utilize imported equipment valued at \$100,000, and \$316,000 equivalent of RTG baht expenditures. This equipment, with an average life of five years, will be used after construction of the initial series of tanks, on other projects yet to be developed in the 3rd Five-year RID Plan.

The more than nine distribution systems to be rehabilitated are expected to provide about 900 additional jobs.

#### V. Course of Action

Upon notification to proceed, RID will submit detailed specifications for the first spread of equipment to be ordered. RID will perform the necessary surveys and prepare detailed construction drawings and cost estimates

During the wet season prior to the construction of each tank and related features. The subsequent spreads of equipment will be evaluated and re-adjusted within a ceiling of \$200,000 as dictated by experience on the precedent tank construction. Operating procedures will be improved and designs modified to consistently upgrade the overall efficiency of the project construction.

Upon cabled approval by AID/Washington of all or part of the FY 1968 component of this project, the Mission will prepare a Project Agreement obligating FY 1968 funds and indicating the baht contribution for FY's 1969 and 1970. As the future years' part of the project is further refined, the Mission will submit a revised PROP.

Location of Labor Intensive Water Development Projects in Northeast Thailand <sup>1/</sup>

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No.	Tank & Canal	District	Province	Capacity m <sup>3</sup> .	Irrigable Area	Total Construction Cost (฿)
1.	Huey Can	Pla Pak	Nakhon Phanom	11,095,000	5,000	11,531,400
2.	Huey Suang	Wanon Niwat	Sakon Nakhon	6,054,000	7,000	9,488,200
3.	Huey Mano	Kuchinarai	Kalasin	6,000,000	2,800	6,780,000
4.	Huey Chanode	Na Kae	Nakhon Phanom	2,400,000	2,000	4,770,000
5.	Huey Kham	Wanon Niwat	Sakhon Nakhon	6,000,000	3,700	5,579,000
6.	Huey Sahai	Bung Kan	Nong Khai	2,500,000	1,500	3,035,000
7.	Huey Jamjang	Kuchinarai	Kalasin	4,000,000	3,000	5,455,000
8.	Huey Jampa	Na Rae	Nakhon Phanom	1,400,000	1,000	2,385,000
9.	Huey Muk	Khamcha	Nakhon Phanom	2,000,000	2,000	3,137,000
10.	Rong Bong	Kuchinarai	Kalasin	1,000,000	800	1,608,000
11.	Huey Ling Jone	Loeng Nok Thai	Ubon Ratchathani	10,500,000	6,500	11,600,000
12.	Huey Pukdog	Na Kae	Nakhon Phanom	9,000,000	6,000	10,400,000
			TOTAL		41,300	75,768,600

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<sup>1/</sup> These projects are part of the NEDE Plan and will be financed by the RTG budget. Neither foreign currency nor counterpart fund is needed for labor payment and for procurement of local materials of construction. The sites are selected in the sensitive areas in NE.

**TABLE I (Continued) (a)**

**Location of Labor Intensive Water Development Projects in Northeast Thailand**

No.	Dam		Canal and Related Structures		
	Height m.	Earth Embankment m <sup>3</sup> .	Length Km.	Excavation m <sup>3</sup> .	No. Related Structures
1.	7.50	150,000	8.000	16,000	42
2.	9.00	153,000	10.000	14,000	68
3.	5.00	80,000	8.000	30,000	66
4.	8.00	120,000	5.000	15,000	28
5.	10.00	150,000	12.500	50,000	58
6.	7.00	60,000	3.000	9,000	25
7.	10.00	110,000	6.000	16,000	52
8.	7.00	70,000	3.000	8,000	18
9.	7.00	85,000	5.000	15,000	28
10.	6.00	40,000	2.000	4,000	12
11.	8.00	80,000	12.000	48,000	62
12.	9.00	180,000	22.000	132,000	72

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TABLE I (Continued) (b)

Location of Labor Intensive Water Development Projects in Northeast Thailand

No.	Head Regulator		Estimated work completed in cubic meters of dirt excavation during the RTG Fiscal Year...			
	Left	Right	1969	1970	1971	1972
1.	-	-	-	166,000		
2.	-	-	-	167,000		
3.	-	Ø 0.80	-	110,000		
4.	Ø 0.80	Ø 0.80	-	-	135,000	
5.	Ø 1.00	Ø 0.80	-	-	200,000	
6.	-	Ø 0.80	-	69,000	-	
7.	Ø 0.80	Ø 0.80	-	-	126,000	
8.	Ø 0.80	-	-	-	-	78,000
9.	Ø 1.00	-	-	-	-	100,000
10.	Ø 0.80	-	-	-	-	44,000
11.	Ø 0.80	Ø 1.00	-	-	128,000	-
12.	-	Ø 1.25	-	-	-	312,000

(PART A)

TABLE II

Labor Intensive Water Development Project  
List of Equipment  
(New Tanks and Systems)

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#	Description	@ Dollars	Number Required	Amount in Year Dollars			
				1968	1969	1970	1971
1.	152 Bhp. Rubber tired dozer <sup>1/</sup> .....	29,500	4	<u>1/</u> 29,500	59,000	29,500	29,500
2.	100 HP Motor Grader <sup>2/</sup> .....	26,500	4	<u>1/</u> 26,500	53,000	26,500	26,500
3.	180 HP Crawler tractor with blade <sup>3/</sup> .....	45,000	4	45,000	90,000	45,000	--
4.	Sheep foot roller, double drum .....	2,500	4	<u>1/</u> 5,000	5,000	--	--
5.	3/4 Cu. yd. Crawler dragline <sup>5/</sup> .....	30,000	4	30,000	30,000	30,000	30,000
6.	4 Cu. yd. Dump truck <sup>6/</sup> .....	6,000	24	24,000	48,000	48,000	24,000
7.	Flat bed truck 21,000 lb. GVW. <sup>7/</sup> .....	6,000	18	18,000	36,000	36,000	18,000
8.	Water truck 7,000 liter..	6,000	4	<u>1/</u> 12,000	12,000	--	--
9.	Field Jeep <sup>8/</sup> .....	3,500	8	7,000	7,000	7,000	7,000
10.	Jeep Wagoneer.....	7,000	1	--	7,000	--	--
11.	Soil lab. Mobile unit. <sup>11/</sup> .....	20,000	4	20,000	20,000	20,000	20,000
12.	16 KW. Generating set <sup>12/</sup> .....	3,500	8	7,000	7,000	7,000	7,000
13.	60 KW. 3 P. Generat- ing set <sup>13/</sup> .....	10,000	1	10,000	--	--	--
14.	300 A. Welding mach- ine, engine drive <sup>14/</sup> .....	3,750	4	--	7,500	7,500	--
15.	210 CFM. Air Com- pressor. <sup>15/</sup> .....	7,500	6	7,500	15,000	15,000	7,500
16.	20 CFM. Air Compressor <sup>16/</sup> .....	750	4	1,500	1,500	--	--

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TABLE II (Continued)

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#	Description	@ Dollars	Number Required	Amount in Year Dollars			
				1968	1969	1970	1971
17.	40 lb. Jack hammer. <sup>17/</sup>	300	12	600	1,200	1,200	600
18.	Tamper engine drive <sup>18/</sup>	500	12	1,000	2,000	2,000	1,000
19.	6 Cu. ft. Concrete mixer. <sup>19/</sup> .....	900	18	2,700	5,400	5,400	2,700
20.	Concrete Vibrator engine drive <sup>19/</sup> .....	500	18	1,500	3,000	3,000	1,500
21.	4" water pump <sup>20/</sup> .....	750	12	1,500	3,000	3,000	1,500
22.	3" water pump <sup>20/</sup> .....	300	18	900	1,800	1,800	900
23.	Dumpy level .....	500	8	1,000	1,000	1,000	1,000
24.	Transit .....	1,000	8	2,000	2,000	2,000	2,000
25.	Proctor needle set. <sup>21/</sup>	350	4	350	350	350	350
SUB-TOTAL				181,550	361,750	364,250	181,050
Spare parts approx. 10% for Procured equipment.				18,450	38,250	35,750	18,950
TOTAL				200,000	400,000	400,000	200,000

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- |   |                                 |
|---|---------------------------------|
| 1/ To be provided from RID's current stock of equipment.            | 16/ Field tire repair job.      |
| 2/ Access roads, site clearing & spreading dirt for dam embankment. | 17/ Rock foundation stripping.  |
| 3/ Reservoir clearing & pulling sheepsfoot rollers                  | 18/ Small area compaction work. |
| 4/ Canal excavation   | 19/ Concrete work.              |
| 5/ Earth moving   | 20/ Foundation dewatering.      |
| 6/ Material transportation.   | 21/ Field compaction control.   |
| 7/ Moistening earth in dam construction.                            |                                 |
| 8/ Compaction control & material testing dam constr.                |                                 |
| 9/ Power camp lighting & construction area.                         |                                 |
| 10/ Power for central repair shop.                                  |                                 |
| 11/ Field repair jobs.  |                                 |
| 12/ Rock foundation stripping.                                      |                                 |

(PART B)

TABLE III

Distribution Systems:

Labor-Intensive Water Development Project

Year 1969

No.	Name of Tank (Existing)	Province	Amphur	Capacity m <sup>3</sup> .	Irrigable Area rai	Dry Season Area rai	฿ Budget
1.	Huey Ban Yang	Nakornrajasima	Muang	6,519,557	5,100	2,040	144,330
2.	Huey Sakard	Nakornrajasima	Pimai	3,578,900	3,000	1,100	162,260
3.	La Leong Wai	Khon-Kaen	Phol	2,800,307	3,500	880	799,460
4.	Huey San	Sri Soket	Muang	2,706,480	3,200	780	362,580
5.	Lam Chamuak	Nakornrajasima	Pimai	23,445,000	10,000	6,600	2,943,800
6.	Huey Yang	Nakornrajasima	Puktongchai	5,539,607	3,400	1,760	1,355,520
7.	Huey Talard	Burirum	Muang	19,578,500	14,000	5,990	675,660
8.	Huey Sompoy	Chaiyapoom	Juturat	7,646,623	5,000	2,490	1,011,790
9.	Lam Pork	Surin	Srikhorapoom	13,267,000	8,500	4,150	658,880
TOTAL				85,081,974	55,700	25,790	8,114,230

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(PART B)

TABLE IV

Details of USOM Contribution Funds for Distribution Systems

<u>Item</u>	<u>FY 1968</u>	<u>FY 1969</u>	<u>Remarks</u>
1. Personnel	-0-	-0-	From present staff.
2. Participants			
a) U.S.A.		10,000	2 nominees for Master Degree in Irrigation.
b) Third Country		2,000	4 nominees, each for one month training in Taiwan and the Philippines.
3. Equipment			
a) Excavation	37,500		
b) Transportation	24,500		
c) Survey	7,330		
d) Canal lining	26,000		
e) Office Supplies	---		
* f) Pumps and Trucks	270,670		
TOTAL U.S. \$	366,000	12,000	

\* 3 Stationery pump (24") will be stationed at Huai Khla-Si Sa Ket Province, Nong Yai, Huai Khilek-Nakhon Phanom Province 10 Mobile pumps (12") will be moved along the tanks which the farmers have asked for and RID has the records of levels of water below the sill in dry years. Those tanks are: Nong Sam Rong, Nong Pa Kho, Sok Rang - Udorn Thani Province, Huai Sai Sawang, Huai Sai Khamin - Sakon Nakhon Province, Nong Song Hong - Nong Khai province, Phu Kratae, Rong Krabao - Nakhon Phanom Province, Nong Bua, Nong Bo, Nong Hai - Maha Sarakham Province, Nong Ya Ma, Nong Phu, Thawat Chai - Roi-Et Province, Nong Ma Chok, Huai Pho - Kalasin Province, Huai Wang Daeng, Nong Lao Hin - Ubon Ratchathani Province, Suwannapha, Lung Pung - Surin Province.

TABLE IV (Continued)FY 1968a) Excavation

disc plow	3 @ =	3 x 900	=	2,700
disc harrow	3 @ =	3 x 900	=	2,100
rear blades	3 @ =	3 x 400	=	1,200
Motor grader				24,500
Roller				<u>7,000</u>
			<b>Total</b>	<b>\$ 37,500</b>

b) Transportation

Jeep Willys	4 @	3,500	=	14,000
Truck, Pickup	3 @	3,500	=	<u>10,500</u>
				<b>\$ 24,500</b>

c) Survey

Levelling	5 @	750	=	3,750
Paragon Transit	3 @	750	=	2,250
Compass	5 @	40	=	200
Tripod : Y level & Transit	8 @	60	=	480
Wall Tent	5 @	130	=	<u>650</u>
			<b>Total</b>	<b>\$ 7,330</b>

d) Canal Lining

Concrete Mixer	3 @	700	=	2,100
Mechanical Tampers	3 @	650	=	1,950
Vibrator	3 @	650	=	1,950
Gradall				<u>20,000</u>
			<b>Total</b>	<b>\$ 26,000</b>

e) Pumping

3 Pumps Ø 24" Low head 5.60 m.	@ 30,000	=	90,000
10 Mobile Pumps Ø 12" with trailers	@ 17,500	=	175,000
1 Truck		=	<u>5,670</u>
		<b>Total</b>	<b>\$ 270,670</b>

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<u>GRAND TOTAL</u>	-	<b>\$ 366,000</b>
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TABLE V

(PART B)

Details of Thai Government ContributionYear 1969

Items	Estimated Disbursement -Baht-
1. <u>In Cash</u> . . . . .	<u>8,187,000</u>
Construction Expenditure	8,115,000
Trust-Fund	<u>72,000</u>
a. Participant U.S.A.	48,000
b. Third Country	24,000
2. <u>In Kind</u> . . . . .	<u>500,000</u>
Government Construction	
a. Land and Building	300,000
b. Official staff and Laborers	140,000
c. Equipment	60,000

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TABLE VIFY 1968 Equipment Spread for Land Cooperatives

1.	1 Unit Tractor Bulldozer 180 HP .....	\$ 40,000
2.	2 Units Tractor Bulldozer 65 HP.....	\$ 40,000
3.	1 Set Ditcher Bulldozer "ROME".....	\$ 10,000
4.	2 Sets Plow .....	\$ 3,000
5.	2 Units Dump Trucks .....	\$ 17,000
6.	1 Unit Ten-wheel Truck.....	\$ 15,000
7.	1 Unit Truck with <u>overshot loader</u> .....	\$ 15,000
8.	1 Unit Medium-size Rooler .....	<u>\$ 5,000</u>
	TOTAL .....	<u>\$145,000</u>

(PARTS A, B, C & D)

TABLE VII

Combined Table of Funds

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	<u>FY 68</u>	<u>FY 69</u>	<u>FY 70</u>	<u>FY 71</u>	<u>FY 72</u>	<u>TOTAL</u>
U. S. \$ .....	711,000	412,000	400,000	200,000	-0-	1,723,000
RTG (B) .....	--	8,187,000	30,834,600	27,404,000	17,530,000	83,955,600
(\$ Equiv.).	--	409,350	1,541,730	1,370,200	876,500	4,197,780

UNCLASSIFIED

Proj. No 4930206  
P1

**ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR, EAST ASIA**

**THRU:** EA/DP, Mr. Charles H Breecher

**FROM:** EA/SEA, Mr. Willard H. Meinecke

**SUBJECT:** Thailand, PROP Approval, Labor-Intensive Water Development  
(ongoing project, 493-11-120-206)

A.I.D.  
Reference Center  
Room 1656 NS

*file*

Scope: The objective of this project is to accelerate the provision of much needed irrigation water to sensitive areas in the Northeast while at the same time providing farmers in the areas with immediate income opportunities through the labor-intensive construction methods used. Twelve new tanks and distribution systems will be constructed, and nine existing tanks will have distribution systems built or rehabilitated, with more to be rehabilitated later with the same USOM-provided equipment. Approximately 30,000 acres of land will be served by these reservoirs and the Thai government cost will be about \$4.2 million dollars, much of it for labor.

Summary: See Tab A.

Accomplishment: The first group of equipment should arrive in-country between March and July, and most of the second group in the fall of 1970. The FY 1969 PROAG was signed by the Royal Irrigation Department which has the construction responsibility, and also by the RTG Departments of Agriculture Extension, and Land Development which have important responsibilities in providing technical assistance to the farmers who will use the impounded water. The latter's signatures are an important step in assuring proper coordination.

Implementation Issues: The initial procurement of commodities in FY 1968 was delayed by specification problems which have been resolved. This should no longer be an issue since following years' procurement are for the same kinds of equipment.

Recommendation: That you approve the Labor-Intensive Water Development PROAG by signing the Project Authorization, enabling implementation to continue, subject to annual review for OYB and issuance of obligational authority to allottees.

EA/SEA:JKrulfeld:alm:1/21/70

**Clearances:**

- EA/SEA:JKrulfeld \_\_\_\_\_
- EA/SEA:WHMeinecke \_\_\_\_\_
- EA/ENG:CGysland \_\_\_\_\_
- EA/DP:CHBreecher \_\_\_\_\_

PROJECT AUTHORIZATION

1. PROJECT NUMBER 1020-24-120-000	3. COUNTRY Thailand	4. AUTHORIZATION NUMBER 0018
2. PROJECT TITLE Labor Intensive Water Development		5. AUTHORIZATION DATE 2/12/70
7. LIFE OF PROJECT		6. PROP DATED June 7, 1968

a. Number of Years of Funding: 5  
Starting FY 19 68; Terminal FY 19 72

b. Estimated Duration of Physical Work  
After Last Year of Funding (in Months): 12

FUNDING BY FISCAL YEAR (in U.S. \$ or \$ equivalent)	DOLLARS		P.L. 480 CCC + FREIGHT	LOCAL CURRENCY Exchange Rate: \$1 =			
	GRANT	LOAN		U.S. OWNED		HOST COUNTRY	
				GRANT	LOAN	JOINTLY PROGRAMMED	OTHER
Prior through Actual FY 6/30/69	000						RTG budget
Operational FY 70	140						100.35
Budget FY 71	170						1,541.73
B + 1 FY 72	170						1,370.2
B + 2 FY							876.5
B + 3 FY							
All Subsequent FY's							
<b>TOTAL</b>	<b>2,380</b>						<b>4,107.78</b>

9. DESCRIBE SPECIAL FUNDING CONDITIONS OR RECOMMENDATIONS FOR IMPLEMENTATION, AND LIST KINDS AND QUANTITIES OF ANY P.L. 480 COMMODITIES

See attached memorandum to the AA/EA.

10. CONDITIONS OF APPROVAL OF PROJECT

No conditions. Issues are addressed in attached memorandum to the AA/EA.

(Use continuation sheet if necessary)

11. Approved in substance for the life of the project as described in the PROP, subject to the conditions cited in Block 10 above, and the availability of funds. Detailed planning with cooperating country and drafting of implementation documents is authorized.

This authorization is contingent upon timely completion of the self-help and other conditions listed in the PROP or attached thereto.

This authorization will be reviewed at such time as the objectives, scope and nature of the project and/or the magnitudes and scheduling of any inputs or outputs deviate so significantly from the project as originally authorized as to warrant submission of a new or revised PROP.

A.I.D. APPROVAL	CLEARANCES	DATE
SIGNATURE RODERIC L. O'CONNOR AA/EA, Roderic L. O'Connor	McLain/CITLerson, EA/SEA	
	Winkelnecka, EA/SEA	
	CGysland, EA/ENG	
	A/GONCHER, EA/DP	
	DATE 11 FEB 1970	