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THE DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT
of the
MINISTRY OF PUBLIC WORKS AND ELECTRIC POWER
REPRESENTING
MINISTRY OF PUBLIC WORKS AND ELECTRIC POWER
AND THE MINISTRY OF AGRICULTURE
GOVERNMENT OF INDONESIA

SEDERHANA IRRIGATION, RECLAMATION AND LAID DEVELOPMENT PROJECT
REPUBLIC OF INDONESIA

MONTHLY PROGRESS REPORT NO. 11
FOR PERIOD
APRIL 1, 1977 - APRIL 30, 1977

INTERNATIONAL ENGINEERING COMPANY, INC.

In Association With

SINOTECH ENGINEERING CONSULTANTS, INC.

SANGKURIANG., ARCHITECTS AND CONSULTING ENGINEERS

JAKARTA, INDONESIA

SEDERHANA IRRIGATION, RECLAMATION
AND LAND DEVELOPMENT PROJECT

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TABLE OF CONTENTS

<u>SECTION</u>		<u>PAGE</u>
I	INTRODUCTION	1
II	CENTRAL TEAM ACTIVITIES	1
III	MEDAN TEAM ACTIVITIES	13
IV	UJUNG PANDANG TEAM ACTIVITIES	19
V	PALEMBANG TEAM ACTIVITIES	22

APPENDIX

A	PERSONNEL IN INDONESIA
B	MAN-MONTHS EXPENDED
C	BILLING STATUS

DOLLAR ACCOUNT

RUPIAH ACCOUNT

I. INTRODUCTION

The Contract between the Directorate General of Water Resources Development (DGWRD) of the Ministry of Public Works and Electric Power representing the Ministry of Public Works and Electric Power and the Ministry of Agriculture and International Engineering Company, Inc. (IECO) in association with Sino-tech Engineering Consultants, Inc. and Sangkuriang Ltd., Architects and Consulting Engineers includes technical advisory services for the Sederhana Irrigation, Reclamation and Land Development Project. The scope of services is outlined in detail in Appendix B of the Contract.

The Contract described above was signed on 24 March 1976 and the starting date of the Contract was 9 June, 1976. The Effective Date of the Contract is 4 August, 1976, the date the Letter of Credit was established.

This Eleventh Monthly Progress Report is submitted in accordance with Article 9.03 of the Contract. It covers major events from April 1 through April 30, 1977 and includes progress on various aspects of the technical advisory services. Information on personnel in Indonesia, man months expended and status of billings is presented in the Appendixes at the back of this report.

II. CENTRAL TEAM ACTIVITIES

A. General - Major activities during the period included a Sederhana Project Conference; work completed by Short-Term Consultants; field inspection trips; preparation of typical designs and agricultural engineering work. These activities, as well as, progress of work summary, training programs and problem areas are discussed in subsequent parts of this section. Other activities during the period included preparation of quarterly schedules, budgets and reports and assisting with sending Overseas Trainee Groups B, C and D on their USA/Taiwan tour. At the end of the period a "draft" Monitoring Plan was completed and submitted to DGWRD for review.

A meeting was held with USAID on April 1 to review and discuss progress of the work, special problem and other items pertinent to the work. The meeting

was attended by Officials of Directorate of Irrigation, Directorate of Food Crop Protection, USAID and members of the Consultants staff including the Project Sponsor. Need for improvement in field surveying, standardizing design criteria, construction inspection and construction budgeting was stressed during the meeting, among others.

Mr. H.Y. Hsu, Project Sponsor, who had been in Indonesia for a two weeks visit, departed on April 3. His activities were discussed in detail in the previous monthly report.

Mr. C.E. Aksamit, Resident Manager, accompanied Mr. Mamad Ismail, Chief of Sub Directorate of Construction Management II, and Mr. Sjaefullah Djamal, Section Head, and Messrs. John Smith, C.E. Rheingans and Didi Effendi, USAID, on a field inspection trip to Central Java and West Java Provinces from April 11-15. The trip is further discussed under field inspection trips.

Mr. A.O. Brown, Operation and Maintenance Specialist, arrived from the USA on April 10 to start his four-month assignment. Mr. W.A. English, Irrigation Design Engineer (Structures) completed his five-month assignment and departed for the USA on April 16.

Mr. W.T. Huang, Processing and Marketing Specialist and Mr. S.F. Wu, Water Management Specialist, arrived in Jakarta from Taiwan on April 15 for short-term assignments of four months each. Mr. M.H. Kwoh, Institution Specialist, also from Taiwan, arrived on April 26 to start his four-month assignment.

Mr. J.D. Sabiniano, Palembang Irrigation/Construction Engineer was on emergency leave to the Philippines from April 8 - 30. Word was received during the latter part of the period that he would return to Indonesia with his family on May 1.

Mr. Prijanto Santoso, Agriculturalist for the Ujung Pandang Team assigned by Sangkuriang, started work in Ujung Pandang on April 7.

B. Advisory Teams Conference - An Advisory Teams conference was held in Jakarta from April 19-22. The purpose of the conference was to hold discussions on progress of the work, problem areas, construction inspection,

certification procedures, implementation of 1977/78 program and other technical matters. Regional Team Leaders and Irrigation/Construction Engineers from Medan, Palembang and Ujung Pandang and members of the Central Team attended the meetings from the Consultants side. Officials and Consultants' counterparts from DGWRD and DGFC were also in attendance. The April 19 meeting was also attended by representative of USAID as was the afternoon session of April 21. Major items covered in each day's meetings were as follows:

April 19

- Report by each Team Leader on his team's activities.
- 1977/78 program.
- Continuation of 1976/77 Program.
- Problem areas.
- Status of training program.

April 20

- Design criteria and typical drawings.
- Hydrologic determinations.
- Soil investigations.
- Subproject design reviews.
- Preparation of manuals.
- Design of "example" subproject by Provincial Public Works and Consultants.

April 21

- Construction inspection reports by Consultants Irrigation/Construction Engineers.
- Construction inspection procedures.
- Construction inspection training sessions.
- Selection of an "example" Irrigation Section.
- Technical soundness and construction certification procedures.
- O & M plan for major works.

April 22

- Monthly and quarterly reports.
- Quarterly activity schedules.
- Administration and accounting.

Decisions and recommendations made during the meetings include the following:

- Continuing efforts should be made to improve working relationships and coordination between the Consultants Teams and the respective Provincial Public Works. Constraints of language and communications between offices are to be recognized and taken into account.
- Consultants' staff should assist the Provincial Public Works in the review of layout of 1977/78 subprojects prior to the start of field surveys for final design by local design contractors.
- At least one "example" subproject should be designed jointly by the respective Provincial Public Works staff and the Consultants in each region.
- Section Heads of Sub Directorate of Construction Management II should periodically accompany Consultants Team Leaders on field inspection trips in their respective areas.
- Steps should be taken by DGFC to provide funds to Consultants Farm Irrigation Engineer, Ujung Pandang, for trips to East Kalimantan and East Nusa Tenggara Provinces.
- Provinces where a number of subprojects major works are completed should be selected for making joint field inspection trips by DGWRD, USAID and the Consultants.
- Taking of photographs of completed subproject major works should be the responsibility of the respective Provincial Public Works.
- Percent of completion of construction of subproject works should be percent of total project. Wherever possible, ratio of cost of completed works to total cost shall be the basis for determining percent of completion.

- Consultants are to furnish list of subprojects which will be completed (major works) in next two or three months along with estimated cost of construction of each subproject.
- Consultants Team Leaders should advise respective Provincial Public Works to resubmit major design changes along with revised cost estimates as they occur.
- Local Design Contractors should conduct hydrologic and soils investigations for each subproject diversion weir site.
- Test pits for soil investigations are recommended wherever feasible.
- Use of idjuk (palm fiber) for seepage control in gabion weirs should be recommended.
- Standardization of design of subproject major works should be stressed.
- Consultants should continue efforts to improve monitoring of progress of work to be reported in quarterly progress reports.

C. Short-Term Consultants - Activities of the Consultants Irrigation Design Engineer (Structures), O & M Specialist, On-Farm Development Specialist, Agricultural Extension Specialist, Processing and Marketing Specialist, Water Management Specialist and Institution Specialist are discussed below:

1. The Irrigation Design Engineer (Structures), Mr. W.A. English completed his five months assignment and departed for the USA on April 16. During the period, April 1-16, he completed the final draft of the design manual entitled "Design Manual for Diversion Dams, Canals and Drains and Canal and Drain Structures". He also completed his trip report and held a three day seminar on design criteria and typical drawings for the Engineers of the Sub Directorate of Construction Management II. The Seminar was also attended by members of the Consultants Central Team.

2. The Operation and Maintenance (O & M) Specialist, Mr. A.O. Brown arrived in Jakarta from the USA on April 10 and immediately started to work on preparation of an O & M plan for the Sederhana subprojects. During the period, April 10-30, he accomplished the following:

- Collected information on O & M practices in Indonesia.
- Field inspected Pete Subproject, West Java Province on April 14.
- Prepared an O & M Plan outline.
- Reviewed construction specifications prepared by the Provincial Public Works, South Sulawesi.
- Attended Consultants conference from April 19-22.
- Prepared activity schedule for stay in Indonesia.
- Departed for Medan on April 26 for three weeks stay. Activities in Medan Region are reported under Medan Team Activities.

3. The On-Farm Development Specialist, Mr. H.D. Tseng, accomplished the following during the period:

- Completed preparation of a manual on crop water requirements.
- Completed a manual to be used as a guide for rice production.
- Completed preparation of the demonstration program for on-farm agricultural development at seven selected subprojects.
- Went on a field trip to South Sumatra and Bengkulu Provinces from April 10-14 for the purpose of selecting demonstration subprojects and collecting data.

Mr. Tseng is scheduled to leave Indonesia on May 17 upon completion of his four-month assignment.

4. The Agricultural Extension Specialist, Mr. J.Y. Hsu, worked on the following:

- From April 1-9 he processed information collected in the field and completed drafts of two agricultural extension manuals entitled "Suggestions for the Establishment of a System of Agricultural Extension Advisory Committees" and "How to Promote a Farm Discussion Group".
- During the period, April 10-15, a field trip to South Sumatra and Bengkulu Provinces was undertaken to collect information on extension services and inspect subprojects in the field. In Bengkulu, a discussion was held with Consultants team members and officials of the Provincial Agricultural Services concerning

agricultural extension and associated work. Subprojects No. 3 and No. 18 were also visited for the purposes of selecting a demonstration subproject in the province, Subproject No. 18 was chosen as the most suitable site for demonstration purposes. South Sumatra Province was visited from April 13 to 15. A discussion was held in Palembang with Provincial Agricultural Services officials, and data were collected on existing agricultural extension activities and farm cultural practices.

- During the period of April 16-20, he processed information collected during the field trip to South Sumatera and Bengkulu Provinces.
- During the period April 21-30, Mr. Hsu continued with preparation of a report, "A Strategy for Developing a Progressive Agricultural Extension Program for the Sederhana Project", intended for use as a guideline for provision of extension services in each subproject.

Mr. Hsu is scheduled to depart Indonesia on May 17, upon completion of his four-month assignment.

5. The Processing and Marketing Specialist, Mr. W.T. Huang arrived in Jakarta from Taiwan on April 15. During the period, April 15-30, he accomplished the following:

- Visited Senior officials of Directorate of Food Crop Protection and Directorate of Irrigation and received orientation on the Sederhana Irrigation Reclamation and Land Development Project.
- Visited officials in other government directorates including Directorate General of Cooperatives, Directorate of BIMAS/INMAS and the Directorate of Agricultural Economics to obtain additional information on processing and marketing practices in Indonesia.
- Participated in a field trip to Bogor to study processing/marketing and supply inputs in a subproject area. Also took part in discussions with local officials and farmers to gain

first-hand information on cultivation practices, production inputs, and processing and marketing.

6. The Water Management Specialist, Mr. S.F. Wu, arrived in Jakarta from Taiwan on April 15 and immediately started to work on the Water Management Plan and Operation and Maintenance Plan for on-farm works. During the period, April 15-30, he accomplished the following:

- Visited officials in DGWRD and Ministry of Agriculture and collected pertinent information for review.
- Participated in discussions of methods for preparation of on-farm irrigation layouts.
- Demonstrated a sample on-farm layout in the field at Ciderum Subproject.
- Reviewed information collected from Bogor district.

7. The Institution Specialist, Mr. M.H. Kwoh, arrived in Jakarta from Taiwan on April 26. During the period, April 26-30, he accomplished the following:

- Made courtesy calls on Mr. C.E. Aksamit, Resident Manager, IECO; Mr. Mamad Ismail, Chief of Sub Directorate of Construction Management II, Directorate of Irrigation; Mr. Otje S.R. Bratamidjaja, Chief of Sub Directorate of Land and Water Conservation, DFOP, and Mr. Effendi Pasandaran, Head, Water Management Section, Sub Directorate of Land and Water Conservation, DFOP.
- Prepared a tentative itinerary for making field trips for purpose of collection of information from and discussions with the staff of local government agencies concerning their respective irrigation program and water user associations, study of proposed sites for pilot demonstration schemes and visit water user associations to become familiar with their organization, activities, irrigation system, and operation and maintenance procedures.
- Prepared a work schedule for the four-month assignment.

D. Field Inspection Trips - During the period two field inspection trips were undertaken to inspect subprojects for completion of construction. One was a combined trip to Central and West Java Provinces and the other was a one-day trip to West Java Province. Members of the party making the combined trip to Central and West Java were mentioned previously.

1. Central Java Province (April 11-12) - Prior to the start of the field inspection trip a brief meeting was held in the office of the Chief of Water Resources in Semarang. Discussions were held concerning field trip, progress of construction of 1976/77 subprojects and the proposed 1977/78 program, certification of completion of construction and reimbursement of estimated cost of construction.

The following subprojects were inspected in the field:

- Subproject Sidomble (996 Ha).
Construction of major works is nearing completion. One reach of canal constructed with excessive gradient and resultant erosion and head cutting was noted. Recommendations were made for correction including lining of the section.
- Subproject Simbung (624 Ha).
Construction of major works is nearing completion. Some excessive canal gradients were noted.
- Subproject Silawang (353 Ha)
Construction of major works is nearing completion.

2. West Java Province (April 13-15) - The following subprojects were inspected in the field:

- Subproject Cisitu (187 Ha)
Construction of major works is completed.
- Subproject Cikalong (352 Ha)
Construction of major works is completed. However, the diversion weir was damaged recently by flood flow in river. Weir crest section is to be reconstructed as well as the upstream apron.

- Subproject Citengah (44 Ha)
Construction of major works is completed.
- Subproject Citere (502 Ha)
Construction of major works is completed except those for a 40 Ha unit of the subproject.

Following the field inspection of the above subprojects a meeting was held in the Office of the Chief of Water Resources in Bandung on April 15. Discussion were held on the field inspection trip, status of completion of construction of 1976/77 subprojects, proposed 1977/78 program, construction tendering procedures and schedules, certification of completed works and reimbursement of estimated cost of construction.

3. West Java Province (April 14) - The Consultants Irrigation Design Engineer and Operation and Maintenance Specialist were accompanied by Ir. Djabonar S., technical staff of the Chief of the Sub Directorate of Construction Management II, on an inspection trip to Subproject Pete near Tangerang in West Java Province.

- Subproject Pete (150 Ha)
Construction of the main diversion weir and raising of the crest level of a secondary weir and installation of the canal intake works was completed in January. High discharge which occurred during a heavy rainstorm in mid-February destroyed the secondary weir and the canal intake works and caused erosion damage in the area of the left abutment of the main weir structure. Plans are under preparation for reconstruction of the damaged works.

G. In-Country Training Program - During the period the following in-country training courses were in progress:

DCWID

<u>Course Name</u>	<u>Participants</u>	<u>Location</u>	<u>Schedule</u>
1. Project Construction and Supervision	(STM)	Yogyakarta	Feb. 14 - June 30

DGMND - cont'd

<u>Course Name</u>	<u>Participants</u>	<u>Location</u>	<u>Schedule</u>
2. Surveying & Mapping	(STH)	Yogyakarta	Feb. 14 - June 30
3. Irrigation O & M	(IR/BIE)	Surabaya	Apr. 18 - May 30
4. Irrigation O & M	(STH)	Surabaya	Mar. 7 - June 7

MOA

<u>Course Name</u>	<u>Participants</u>	<u>Location</u>	<u>Schedule</u>
1. Farmer Water User Association and Farm Water Management	Provincial and Kabupaten Agri-cultural Officers	T.C. Ungaran Central Java	Mar. 15 - Apr. 7

H. Overseas Training Program - During the period Groups B, C, and D composed of officials of DGMND and MOA departed for the USA and Taiwan according to the following schedule:

- Group B, 6 officials departed April 2
- Group C, 4 officials departed April 9
- Group D, 4 officials departed April 22

The Group A trainees had departed previously, on March 26, and Group E is scheduled to go to the USA on October 29.

Preparations were underway for the first group of participants (Group I) of the Asian Observation Tour to depart on May 14. The Asian Observation Tour consists of one week under the sponsorship of the National Irrigation Administration in the Philippines and two additional weeks attending lectures and field tours in Taiwan.

I. Summary of Progress of Work (1976/77)

<u>Item</u>	<u>April 1-30</u>	<u>Previous</u>	<u>Total</u>	<u>Remarks</u>
I. <u>Major Works</u>				
Designs Received				
Sub Dir. Const. Mgmt.	0	58	58	

<u>Item</u>	<u>April 1-30</u>	<u>Previous</u>	<u>Total</u>	<u>Remarks</u>
I. <u>Main Works</u> - cont'd				
Designs Received				
Consultant	0	21	21	
Designs Reviewed				
Sub Dir. Const. Mgmt. II	0	48	48	
Consultant	0	6	6	
Subprojects Inspected (Initial)	2	35	37	
Repeat Inspection of Subprojects	6	0	6	
Reviews Submitted	0	6	6	
Subprojects Tendered	N.A	60	60	
Construction Started	N.A	49	49	
Construction Complete	N.A	23	23	

III. MEDAN TEAM ACTIVITIES

A. General - Personnel of the Medan Regional Team made three trips within North Sumatra Province and one trip each to the provinces of Riau, West Sumatra and Aceh during the reporting period. These trips involved inspection of subprojects under construction and discussions with Provincial Public Works and Agricultural Services personnel relative to the implementation status of the 1976/77 program.

The Team Leader and Irrigation Construction Engineer attended a four-day conference in Jakarta. Discussions were held on design, construction, construction inspection, operation and maintenance, certification procedures, the subproject monitoring program and other project related matters. Additionally during separate discussions with DGWRD and the local Design Contractor it was agreed that recommendations for redesign of the diversion dam Gido Zebua on the Island of Nias will be finalized by the Consultants team following the carrying out of additional foundation investigations.

Mr. A.O. Brown, Operation and Maintenance Specialist, arrived in Medan on April 26, to collect information on O & M practices. Mr. Brown is scheduled to be in the Medan Region for three weeks and will make field inspection trips in North Sumatra and Riau Provinces to observe O & M practices as well as collect information.

B. Field Inspection Trips

1. North Sumatra Province - Three construction inspection trips were conducted within the province of North Sumatra. The estimated percent complete of the 1976/77 works is as follows:

Subproject No. 1 (Pinang Sori)	95%
Subproject No. 2 (Sikuah-laah)	100%
Subproject No. 6 (Kuala Janji)	90%
Subproject No. 7 (Bukit Cermin)	100%

In addition, trips to two 1974/75 Subprojects, Timbang Deli and Lau Simeme, were taken to inspect operation and maintenance aspects. The O & M Specialist

accompanied the Team Leader on these inspection trips.

2. Riau Province - The On-farm Irrigation Engineer established priorities for implementation of the survey, design and construction of the tertiary systems for nine 1976/77 subprojects.

3. West Sumatra Province - The On-farm Irrigation Engineer also established priorities for implementation of the survey, design and construction of the tertiary systems for four 1976/77 subprojects in West Sumatra Province.

4. Aceh Province - The Team Leader traveled to the Province of Aceh. Discussions were held with the Chief of Water Resources and recommendations were put forth relative to revising the scope of work for four of the five subprojects scheduled for implementation under the 1976/77 work program. In this province construction of only one subproject (Tangse) had been initiated by the end of the reporting period.

C. Review of Subproject Designs - Assistance was provided the Public Works staff of the Province of North Sumatra in the design of the diversion facilities for Subproject No. 3, Gido Zebua. Tailwater and headwater rating curves, hydraulic calculations for the weir stilling basin and sluiceway, preliminary structure drawings, and weir stability analyses were prepared by the Consultants. In addition, preliminary foundation studies were performed based on the soils investigation report prepared by Tridjaya Consultants of Bandung.

D. Agricultural Engineering - Major activities during the period are summarized as follows:

- The status of on-farm engineering work in the four provinces of the Medan Region, including the irrigable area in each subproject after completion of 1976/77 major works construction, has been tabulated.
- A trip was taken to Subproject No. 6 (Lada Janji) in the Province of North Sumatra to inspect the topographic survey of the 120 hectare area which had been selected as a demonstration subproject in that province.

A program for implementation of this subproject was prepared by the On-Farm Irrigation Engineer.

- A trip was made to Subproject No. 7 (Bukit Cermin) in the Province of North Sumatra to inspect the layout and route survey of the tertiary canal system.
- A trip was made to Bukittinggi in West Sumatra Province and Pekanbaru in Riau Province to inspect the progress of agricultural engineering. Attention was focused on establishing priorities for survey, design and construction of on-farm irrigation facilities. Observations and recommendations resulting from this trip are discussed below.

1. West Sumatra Province - The contracts for the survey and design of the tertiary system for four 1976/77 subprojects (Nos. 3, 5, 7 and 9) in the Province of West Sumatra have been awarded and survey work has begun. As shown in the following tabulation, there are five subprojects (Nos. 2, 3, 5, 6 and 8) whose major works and tertiary blocks have both been budgeted for completion in 1976/77. For the remaining subprojects (Nos. 1, 4, 7 and 9) only a part of the major works has been budgeted for completion during 1976/77. In the case of Subprojects Nos. 1 and 4, no 1977/78 budget allocation for completion of the major works has been made by the Provincial Public Works. Subprojects 7 and 9 do not have sufficient combined budget allocations in 1976/77 and 1977/78 to allow construction of major works required to command the tertiary block area planned for development during 1976/77 by the Provincial Agricultural Services. In each case, it is recommended that the Provincial Public Works arrange a supplementary budget sufficient to complete construction of the major works.

Subproject	Total Area for Development Ha	Area Commanded by Major Works Scheduled Under 1976/77 P.U. Budget Ha	Area Commanded by Major Works Scheduled Under 1977/78 P.U. Budget Ha	Tertiary bloc for development under 1976/77 MOA Budget Ha
1. Air Singkarak	128	72	0	128
2. Bukit Berampung	284	284	-	284
3. Tamiang Ampalu	337	337	-	337
4. Talang Kemuning Jaya	985.5	142	0	843.5
5. Bandar Gadang Jambak	135	135	-	135
6. Pungai Bawah	375	375	-	375
7. Lumbo Limau Gadang	1257.25	223	N.A.	432
8. Koto Kandis	236	236	-	236
9. Sapan Kayu Manang	681	405	N.A.	681

2. Riau Province - The contracts for survey and design of Subprojects No. 1 (Salo), No. 2 (Pasir Jambu) and No. 3 (Muara Jalai) have been awarded by the Provincial Agricultural Services. The remaining subprojects listed below will be tendered by the Ministry of Agriculture (MOA) in Jakarta. It is recommended that all contracts be finalized as soon as possible to avoid delays.

Subproject No. 4 Tanjung Belit
 Subproject No. 5 Tiwi Kecil
 Subproject No. 6 Lubuk Agung
 Subproject No. 8 Buncah Labih
 Subproject No. 9 Sentajo II
 Subproject No. 11 Labuh Muara Lembu

E. Certification of Technical Soundness - Listed below are nineteen subprojects in the Medan Region which presently meet requirements for technical soundness certification:

North Sumatra Province

- Subproject No. 5 (Namu Embilin) 85 Ha

Riau Province

- Subproject No. 1	(Salo)	150 Ha
- Subproject No. 2	(Pasir Jambu)	600 Ha
- Subproject No. 3	(Kebon Durian)	200 Ha
- Subproject No. 4	(Tanjung Belit)	200 Ha
- Subproject No. 5	(Tiwi Kecil)	105 Ha
- Subproject No. 6	(Labuk Agung)	90 Ha
- Subproject No. 7	(Muara Jalai)	400 Ha
- Subproject No. 8	(Bancak Labih)	300 Ha
- Subproject No. 9	(Sentajo II)	250 Ha
- Subproject No. 11	(Labuh Muara Lembu)	100 Ha
- Subproject No. 14	(Sidinginan)	243 Ha
- Subproject No. 15	(Telo)	315 Ha
- Subproject No. 18	(Pisang Berebus)	323 Ha
- Subproject No. 19	(Rawang Pauh)	200 Ha
- Subproject No. 20	(Barabahi)	300 Ha

West Sumatra Province

- Subproject No. 2	(Bukit Berampung)	285 Ha
- Subproject No. 3	(Tamiang Ampalu)	337 Ha
- Subproject No. 5	(Bandar Gadang Jambak)	135 Ha

The remaining 1976/77 subprojects are not eligible for technical soundness certification at this time as they await completion of the design drawings or the cost estimate or both.

F. Summary of Progress of Work

<u>Item</u>	<u>This Period</u>	<u>Previous</u>	<u>Total</u>
I. <u>MAJOR WORKS</u>			
Designs Received	0	30	30
Design Reviewed	0	30	30
Reviews Submitted	0	30	30
Initial Subproject Inspection	0	45	45

<u>Item</u>	<u>This Period</u>	<u>Previous</u>	<u>Total</u>
I. <u>MAJOR WORKS</u> - cont'd			
Repeat Subproject Inspection	3	16	19
Subprojects Tendered	1	39	40
Construction Started	1	39	40
Construction Completed	N.A.	0	N.A.
1976/77 Hydrological Studies	0	37	37
1977/78 Hydrological Studies	0	0	0

II. ON-FARM WORKS

Review of preliminary layout of tertiary system	23	0	23
Survey and design for tertiary system contracted	4	18	22
Tertiary system survey completed	6	0	6
Tertiary system design completed	1	0	1
Tertiary system construction started	0	0	0
Tertiary system construction completed	0	0	0
Water user association organized	0	5	5
Extension services available	0	5	5

G. Problem Areas

- In order that the Consultants Regional Team can review the design of the 1977/78 subprojects in each province it is recommended that the design calculations and drawings be forwarded to the Consultants office as early as possible.
- Topographic maps at scale of 1 : 40,000 or 1 : 100,000 covering the drainage area of 1977/78 subprojects should be provided to the Consultants by the Provincial Public Works Offices.

IV. UJUNG PANDANG TEAM ACTIVITIES

A. General - During the reporting period construction operations were observed at three subprojects in North Sulawesi Province, three subprojects in Southeast Sulawesi Province and eight subprojects in South Sulawesi Province. Two four-day training courses were held for PPL's (Field Extension Workers), one in Ujung Pandang, South Sulawesi, April 18-21 and one in Kendari, Southeast Sulawesi, April 27-30. A meeting of Regional Team Leaders and Construction Engineers in Jakarta was attended from April 19-22. In addition, meetings were held with members of the Provincial Agricultural Services and Provincial Public Works in North, South and Southeast Sulawesi Provinces to discuss problems concerning the work.

During the month it was determined that the Ujung Pandang Regional Advisory Team would assume responsibility for supervision of subproject implementation in three provinces which were formerly assigned to the Central Advisory Team. These provinces are East Kalimantan, East Nusa Tenggara and Maluku. Information was also received at the Jakarta meeting regarding the names and locations of 48 subprojects scheduled for implementation during 1977/78 in the Ujung Pandang Region.

The Agriculturalist, Ir. Prijanto Santoso, reported to Ujung Pandang on April 7. The Ujung Pandang Regional Advisory Team is now fully staffed.

B. Field Inspection Trips - During the reporting period five field inspection trips were undertaken by members of the Regional Advisory Team in the course of which construction operations and field agricultural conditions were observed.

1. North Sulawesi Province (April 4-7) - Construction operations at Subprojects No. 1, Alo (915 Ha); No. 2, Fosso (268 Ha) and No. 3, Molowahu (499 Ha) were observed. Subproject Alo was approximately 65% complete. Fosso and Molowahu have been completed. At Molowahu the gabion weir has been destroyed by a flood and a portion of the canal deleted due to insufficient funds.

2. South Sulawesi Province (April 13-15, 21-24) - From April 13-15 the construction operations at Subprojects No. 9, Kariu I (432 Ha); No. 10, Kariu II (185 Ha) and No. 11, Panaikang (369 Ha) were observed. As Kariu II has been designated as a demonstration subproject, the agricultural field conditions, project boundary and water supply sources were inspected. From April 21-24 construction progress and agricultural field conditions were observed at the following subprojects:

No. 16	Kajenjeng	500 Ha
No. 6	Billoka	750 Ha
No. 3	Tapango	200 Ha
No. 4	Sulewatang	310 Ha
No. 5	Rappang	577 Ha

Construction work at Sulewatang has been completed. At Kajenjeng no work has been accomplished since January.

3. Southeast Sulawesi Province (April 27-29) - During an inspection trip to Southeast Sulawesi Province, four sites scheduled for implementation or completion in 1977/78 were inspected:

No. 5	Anoito	600 Ha
No. 6	Moweve	500 Ha
No. 7	Movila	500 Ha
No. 1	Ameroro	4000 Ha (1974/75 subproject)

C. Review of Subproject Designs - During this period no new designs were received for review.

D. Agricultural Engineering - During the reporting period the Farm Irrigation Engineer made two field trips to subprojects in South Sulawesi Province and one trip to Southeast Sulawesi Province. Two 4-day training courses for PPL's (Field Agriculture Extension Officers) were conducted, one in Ujung Pandang and one in Kendari. Subjects covered included the following:

- Criteria and procedures for carrying out engineering works.
- Layout of farm ditches and irrigation blocks.
- Design of farm ditches and computation of hydraulic properties for ditches.

- Construction of farm ditches.
- Profile surveys for design of farm ditches.
- Construction surveys.

During the period reference materials were collected which will be used to organize water user associations. Finally, the project boundaries and water supply sources for the demonstration subproject, Kariu II, were investigated in detail at the subproject site.

E. Summary of Progress of Work (1976/77)

<u>Item</u>	<u>April 1 - 30</u>	<u>Previous</u>	<u>Total</u>
I. MAJOR WORKS			
Design Reviewed and Submitted	0	32	32
Initial Inspection of Subproject	0	32	32
Repeat Inspection of Subproject	14	27	41
Construction Started	3	27	30
Construction Completed	6	0	6
II. ON-FARM WORKS			
Preliminary layout completed	0	30	30
Contracted	15	0	15
Survey Completed	2	0	2
Design Completed	1	0	1
Construction Completed	0	0	0
Construction Started	0	0	0
Water User Association Established	0	0	0
Extension Service Provided	0	0	0

F. Problem Areas

- Vehicles for the Team Leader and the Construction Engineer have not arrived as yet though it is understood that they have been purchased and are in transit to Ujung Pandang.

V. PALEMBANG TEAM ACTIVITIES

A. General - During the reporting period the Team Leader attended a conference of Team Leaders and Irrigation/Construction Engineers in Jakarta. Agricultural Team Members made field inspection trips to South Sumatra and Jambi Provinces. A trip to Bengkulu Province to investigate appropriate sub-projects for demonstration purposes was also made. In addition Irrigation Team Members visited Bengkulu for detailed discussions on the status of 1976/77 subprojects and to ascertain subprojects presently certifiable as technically sound.

From April 10 to 15, Mr. J.Y. Hsu, Agriculture Extension Specialist, and Mr. H.D. Tseng, On-farm Development Specialist, visited the regional office and also participated in the field trip to Bengkulu Province with the Agricultural Team Members for selection of demonstration subprojects and collection of information.

B. Field Inspection Trips - At the end of March the Agricultural Team Members visited Lampung Province and inspected the irrigated areas of the following subprojects listed below. In addition, discussions with the staff of the Provincial Agricultural Services took place.

No. 3	Way Skipi Hilir	207 Ha
No. 6	Way Apus	86 Ha
No. 7	Way Panas	72 Ha
No. 9	Way Sabu Menanga	112 Ha

The following field inspection trips were made by the Agricultural Team Members during April.

1. South Sumatra Province (April 6-9) - During this trip the following subprojects were visited:

No. 1	Air Nitap	109 Ha	(Mura)
No. 3	Air Gohong	655 Ha	(Lahat)
No. 4	Air Mana	310 Ha	(Lahat)
No. 5	Air Betung	255 Ha	(Lahat)

The main purpose was to investigate the irrigated areas of these subprojects. However, the diversion sites for Subprojects Nos. 1 and 5 were also inspected as these sites are relatively inaccessible and had not been visited previously. As of the time of the inspection, no access road had been provided to the diversion site of Subproject No. 5 which is 20 kilometers distant from the roadway.

2. Bengkulu Province (April 11-13) - The purpose of this trip was to inspect Subproject No. 18, Air Ngalam, to determine its suitability for demonstration purposes. Mr. J.Y. Hsu, Farm Extension Specialist and Mr. H.D. Tseng, On-farm Development Specialist, accompanied the team members to observe the field conditions and to assist in the evaluation of the subproject. Subproject No. 3, Air Susup II, has been dropped from further consideration as a demonstration subproject as the budget is insufficient for completion in 1976/77.

3. Jambi Province (April 18-23) - The following subprojects were visited:

No. 1	Sei Dusun Kermio	477 Ha
No. 2	Sei Tiongko	288 Ha
No. 3	Sei Sembilang	367 Ha
No. 4	Sei Singkaran	311 Ha
No. 6	Sei Betuk	868 Ha
No. 7	Sei Bangko	88 Ha
No. 8	Sei Ulak	489 Ha

Construction of Sei Singkaran was completed in February 1977 but had not been previously inspected due to its remote location. Sei Ulak had also not been previously inspected by members of the Palembang Regional Advisory Team. The agricultural conditions of the irrigated areas were inspected on all of the above subprojects.

C. Review of Subproject Designs - Progress in submitting subproject design reviews has been slow. In order to inform the Provincial Public Works of deficiencies which could delay Technical Soundness certification of subprojects, it was decided to arrange detailed discussions of each subproject

with the Provincial Public Works Staff in each province. The first of these discussions took place in Bengkulu Province from April 27 to 30. Of the major problems to come to light, the inadequacy of the budget for construction of the major works as designed is the most serious. In most cases portions of the major works cannot be completed as scheduled. This could cause major delays in implementation, certification and reimbursement of the subprojects affected. Copies of the subproject budgets, cost estimates, and contract bid estimates have been requested in order to determine if the problem is due to an over-ambitious program, inadequate planning and preliminary cost estimates, inadequate budget allocation or a combination of these factors.

It was also found that the Provincial Public Works took no actions on suggestions made in previous field trip reports, this may be a result of the fact that reports are prepared in English.

A number of technical problems were also exposed, some of which were solved satisfactorily but others will require more information and study. Similar discussions are being planned for Jambi, South Sumatra and Lampung Provinces.

D. Agricultural Engineering - The main effort during the reporting period was concentrated on inspecting subprojects which are expected to be completed in the near future and for which planning and design of the on-farm works will be initiated. A subproject to be used for demonstration purposes in South Sumatra Province was selected. In addition the Team continued to assist the Provincial Agricultural Services in the preparation of contracts for survey and design of on-farm works.

E. Summary of Work Progress

<u>Item</u>	<u>This Period</u>	<u>Previous</u>	<u>Total</u>
Designs Received	13	32	45
Preliminary Design Reviews	17	21	38
Reviews Submitted	0	2	2
Hydrological Studies			
1976/77	2	38	40

<u>Item</u>	<u>This Period</u>	<u>Previous</u>	<u>Total</u>
1977/78	0	4	4
Subprojects Inspected			
1976/77 Major Works	2	43	45
1976/77 Agriculture	10	31	41
Subprojects Under Construction	1	1	2
Subprojects Completed	1*	1	2
Survey and Design of On-Farm Works			
Contracted	0	11	11
Contracts Prepared	12	0	12

* 1976/77 program.

F. Problem Areas - Apart from the problems mentioned under Section C, Review of Subproject Designs, the following problems were discussed at the Jakarta meeting:

- The need for additional planning during the preliminary design stage. This requirement can be attributed in part to:
 - Inadequate surveys, particularly of the diversion site.
 - Inadequate funds in the design budget allocation to allow the design contractor's engineers to inspect the site and hold preliminary planning sessions with the staff of the Provincial Public Works.
 - It is not always possible for the Consultants Team to review the layouts, proposed designs, and cost estimates during the preliminary stage. For example, final designs for many 1977/78 subprojects are already completed.
- In a number of cases the backwater effect from large rivers in flood stage downstream of diversion weir sites reduces the spillway capacity. Development of tailwater curves in the design stage is required for correct determination of the weir crest length.
- Response from Provincial Public Works with regard to timely submittal of Quarterly Status Reports could be improved. The accuracy of the

progress estimates could also be improved and estimated dates for completion of construction are sometimes overly optimistic.

PERSONNEL IN INDONESIAEXPATRIATE PERSONNEL - TECO

<u>Name</u>	<u>Classification</u>	<u>Location</u>	<u>Arrival Date</u>	<u>Departure Date</u>
<u>Long-Term Personnel</u>				
C.E. Aksanit	Resident Manager	Jakarta	09 June '76	
C.F. Leonhardt	Leader/Design Engr.	Medan	17 July '76	
R.A. Gillman	Irrig. Design Engr.	Jakarta	25 July '76	
G.F. White	Leader/Design Engr.	U. Pandang	15 Aug '76	
O.K. McCausland	Leader/Design Engr.	Palembang	01 Oct '76	
J.D. Sabiniano	Irrig./Const. Engr.	Palembang	05 Oct '76	
<u>Short-Term Advisors</u>				
H.Y. Hsu	Project Sponsor	Jakarta	12 Sept '76	24 Sept '76
			19 March '77	03 April '77
A.C. Phillips	Training Specialist	Jakarta	14 Sept '76	20 Sept '76
W.C. Peterson	Hydrologist	Jakarta	29 Sept '76	21 Dec '76
N.H. Rands	Soils & Found. Engr.	Jakarta	12 Nov '76	12 Feb '77
W.A. English	Irrig. Design Engr.	Jakarta	17 Nov '76	16 April '77
C.G. Burress	Training Coordinator	Jakarta	17 Nov '76	09 Feb '77
A.O. Brown	O & M Specialist	Jakarta	10 April '77	

EXPATRIATE PERSONNEL - SINOTECH

<u>Name</u>	<u>Classification</u>	<u>Location</u>	<u>Arrival Date</u>	<u>Departure Date</u>
<u>Long-Term Personnel</u>				
S.M. Lee	Farm Irrig. Engr.	Jakarta	10 June '76	
T.F. Yang	Farm Irrig. Engr.	Medan	20 July '76	
S.Y. Yang	Irrig./Const. Engr.	Medan	20 July '76	
P.W. Lai	Farm Irrig. Engr.	U. Pandang	17 Aug '76	
C.C. Chu	Irrig./Const. Engr.	U. Pandang	24 Aug '76	
A.H. Lo	Farm Irrig. Engr.	Palembang	05 Oct '76	

PERSONNEL IN INDONESIA

EXPATRIATE PERSONNEL - SINO TECH (cont'd)

<u>Name</u>	<u>Classification</u>	<u>Location</u>	<u>Arrival Date</u>	<u>Departure Date</u>
<u>Short-Term Advisors</u>				
J.Y. Hsu	Agri. Ext. Spec.	Jakarta	18 Jan '77	
H.D. Tseng	On-Farm Dev. Spec.	Jakarta	18 Jan '77	
W.T. Huang	Proc. & Mkt. Spec.	Jakarta	15 Apr '77	
S.F. Wu	Water Manag. Spec.	Jakarta	15 Apr '77	
M.H. Kwoh	Institution. Spec.	Jakarta	26 Apr '77	

INDONESIAN PERSONNEL - SANGKURIANG

<u>Name</u>	<u>Classification</u>	<u>Location</u>	<u>Starting Date</u>	<u>Termination Date</u>
<u>Technical Personnel</u>				
Ir. Soebagijo S.	Agriculturalist	Jakarta	11 June '76	
Ir. Abdul Afif	Irrig. Engineer	Jakarta	15 June '76	
Ir. Buchari A.	Irrig. Engineer	Medan	22 July '76	
Ir. Sumarna	Agriculturalist	Medan	22 July '76	
Ir. A.B. Lambé	Irrig. Engineer	U. Pandang	21 Aug '76	
Ir. Rachim S.	Agriculturalist	Palembang	11 Oct '76	
Ir. Hardianto G.	Irrig. Engineer	Palembang	08 Nov '76	
Ir. Prijanto S.	Agriculturalist	U. Pandang	07 Apr '77	
<u>Logistic Support Personnel</u>				
Glampo S.	Office Mgr./Expdt.	Jakarta	11 June '76	
R.M. Bachrawi	Accountant	Jakarta	15 June '76	
A. Marry Z.	Typist/Clerk	Jakarta	15 June '76	
Sinta R.A.	Typist/Clerk	Jakarta	15 June '76	

APPENDIX "B" - MAN MONTHS EXPENDED (INDONESIA)

Month	IECO				SINO TECH				SANGKURIANG			
	Long-Term		Short-Term		Long-Term		Short-Term		Technical		Logistic Support	
	Monthly Total	Total To Date	Monthly Total	Total To Date								
<u>1976</u>												
June	0.75	0.75	-	-	0.75	0.75	-	-	1.25	1.25	1.70	1.70
July	1.65	2.40	-	-	1.50	2.25	-	-	2.50	3.75	4.00	5.70
Aug.	3.55	5.95	-	-	3.75	6.00	-	-	4.40	8.15	4.00	9.70
Sept.	4.00	9.95	0.75	0.75	5.00	11.00	-	-	5.00	13.15	4.00	13.70
Oct.	5.35	15.80	1.00	1.75	5.85	16.85	-	-	5.70	18.85	4.00	17.70
Nov.	6.00	21.80	2.55	4.30	6.00	22.85	-	-	6.75	25.60	4.00	21.70
Dec.	6.00	27.80	3.75	8.05	6.00	28.85	-	-	7.00	32.60	4.00	25.70
<u>1977</u>												
Jan.	6.00	33.80	3.00	11.05	6.00	34.85	0.90	0.90	7.00	39.60	4.00	29.70
Feb.	6.00	39.80	1.75	12.80	6.00	40.85	2.00	2.90	7.00	46.60	4.00	33.70
March	6.00	45.80	1.40	14.20	6.00	46.85	2.00	4.90	7.00	53.60	4.00	37.70
April	5.25	51.05	1.35	17.55	6.00	52.85	3.25	8.15	7.80	61.40	4.00	41.70

BILLING STATUS
DOLLAR ACCOUNT

Bill No.	MONTH	SUBMITTED		APPROVED		REMARKS
		Date	Amount	Date	Amount	
	<u>1976</u>					
1	Mar-Jun	09-08-76	\$ 25,067.07	10-11-76	\$ 25,060.18	Exch. Rate Corr.
2	July	09-08-76	\$ 41,827.18	10-11-76	\$ 41,797.79	Exch. Rate Corr.
3	August	10-26-76	\$ 67,037.45	11-01-76	\$ 67,037.45	
4	Sept	11-04-76	\$ 62,143.40	12-08-76	\$ 62,143.40	
5	Oct.	12-23-76	\$ 89,116.93	01-15-77	\$ 89,116.93	
6	November	01-26-77	\$ 93,900.75	03-05-77	\$ 93,900.75	
7	December	02-09-77	\$ 188,047.36	03-12-77	\$ 169,407.36	\$ 18,640 cancelled
	<u>1977</u>					
8	January	01-21-77	\$ 93,210.57	03-31-77	\$ 93,210.57	
9	February	01-09-77	\$ 231,732.35	01-29-77	\$ 231,732.35	

BILLING STATUS
RUPIAH ACCOUNT

BILL No.	MONTH	SUBMITTED		APPROVED		REMARKS
		Date	Amount	Date	Amount	
	<u>1976</u>					
1	Mar-Jul	09-17-76	Rp. 1.412.785,--	12-23-76	Rp. 1.380.970,--	
2	August	10-12-76	Rp. 1.508.590,--	12-20-76	Rp. 1.438.525,--	
3	Sept.	11-10-76	Rp. 1.746.155,--	01-14-77	Rp. 1.711.325,--	
4	Oct.	12-09-76	Rp. 3.712.084,--	01-14-77	Rp. 3.563.204,--	
5	Nov.	01-20-77	Rp. 3.256.332,--	01-29-77	Rp. 3.235.047,--	
6	Dec.	02-17-77	Rp. 4.571.492,--	03-19-77	Rp. 4.533.017,--	
	<u>1977</u>					
7	Jan.	03-17-77	Rp. 3.934.985,--	04-21-77	3.934.985,--	
8	Feb.	03-29-77	Rp. 4.141.642,--	04-29-77	4.141.472,--	
9	Mar.	04-25-77	Rp. 3.956.702,--	04-30-77	3.954.702,--	