

PD-AAA-336



Balittan - Sukarami  
P.O. Box 34 Padang  
West Sumatra, Indonesia

Balai Penelitian Tanaman Pangan Sukarami

Sukarami Research Institute For Food Crops (Sarif)

KM-42635

SARIF QUARTERLY REPORT

JANUARY - MARCH 1984

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Project No. 497 - 0263  
(USAID Loan No.497-T-048)

SARIF QUARTERLY REPORT

JANUARY - MARCH 1984

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Project No. : 497-0263  
Grant No. : FY 77-14  
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Project Assistance  
Completion Date : APRIL 12, 1986  
Implementing Agency : SARIF (Through: CRIFC/AARD)  
Participating Agency : International Agricultural  
Development Service (IADS)  
Loan Implementing Agency: USAID/AGR, JAKARTA

SARIF QUARTERLY REPORT

JANUARY - MARCH 1984

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APPENDIX:

- I. SARIF's FOURTH FIVE YEAR PLAN (PELITA IV) - 1984-1989  
(Translated - English - version)

## O V E R V I E W

The First Quarter 1984 was a tumultuous and noteworthy period for SARIF and the SARP. In retrospect the Quarter was devoted to "Linkages and Outreach" as several important meetings and field days were held, including:

1. Field Day at Sitiung. This was held on January 17th and highlighted by participation of the Governor of West Sumatra, Mr Azwar Anas; and the Bupati of Solok, Mr Hasan Basri. The tour of experiments and demonstrations at Sitiung was jointly sponsored by SARIF and the Extension Services of West Sumatra. An estimated 500 to 600 people - mainly farmers - attended parts of the day's program.
2. Joint SARIF/Trop-Soils Meeting. This was held on January 31st at Sitiung and included the participation of both SARIF/SARP staff led Dr Syarifuddin, and the Trop-Soils Group including Drs. John Thompson, Michael Wade, Carol Kauffer, Ir Karim Makarim and others. Major focus of the meeting was to visit the Trop-Soils field experiments in Sitiung IV, II and V. The purpose of the meeting was to bring about closer collaboration and cooperation between the two agencies and their programs. Hopefully, it would lead to regular meetings aimed at exchanging of information, complementarity of projects and even direct cooperation.
3. Annual AARD/CRIFC Meetings. The annual national meetings of AARD including the heads and representatives of all the Balais and commodity research institutes were held at Sukarami in the newly - constructed auditorium during the week of February 6-11th. More than 80 persons attended led by

Mr. Sadikin S.W. The Governor of West Sumatra, Mr Azwar Anas, inaugurated the meetings and also hosted a dinner for the Group later in the week.

4. IRRI/AARD Meeting. This meeting was held on February 28th to March 3rd. The IRRI Group was led by Dr. M.S. Swaminathan, Director General; while Mr Sadikin, Dr. B.H. Siwi and selected Balai staff members represented the AARD. Major topics included upland rice, water management, rice pests and hybrid rice. A special field tour to Sitiung was arranged for IRRI staff who had not previously visited the area (Dr Dennis Garrity and others).
5. SARP Second Semester 1983 Meeting. This meeting was held at Sukarami March 23-24 and attended several members of USAID and CRIFC from Bogor/Jakarta. Dr. B.H. Siwi and A. Syarifuddin presided, while the USAID group was led by Dr William Fuller (Director) and included Messrs Kenneth Prussner and Alan Hurdus (Agriculture) and John Sperling (Program-Officer). The program included lively discussions on several key issues, especially funding of construction and commodity procurement.

These events and meetings required considerable organizational effort on the part of SARIF staff; but also signify the ascendancy of the Sukarami Balai both nationally and internationally. They are also indicative of the emerging leadership of the Balai within its sphere of influence, and especially in West Sumatra. Particularly impressive are the SARIF's close linkages with Extension Services, the Governor's Office and Andalas University.

Research activities during this reporting period were heavily concentrated at Sitiung and several excellent

experiments were carried out at the Gunung Medan Station, Sitiung IV and Sitiung I-1A. Particularly interesting were the cropping systems demonstration covering 5 ha and participated in by 6 farmers in Sitiung IV; the regenerative cropping experiments involving associations of upland rice and *Leucaena* at the Research Station (Gunung Medan); and the extensive series of upland rice experiments in Sitiung I-1A. The results of these and other research will be described in the 1984 First Semester and Second Quarter Report.

Construction has progressed well during the Quarter. Virtually all of the exterior work on the strikingly - attractive Sukarami Office/Laboratory complex was completed, considerable progress was made on interior finishing work, and landscaping of the grounds was begun. The work had progressed sufficiently to allow SARIF to use the Guest House facilities for the early February meetings. However, completion of construction and formal handing over is anticipated for well into the Second Quarter 1984.

Other construction at Lampineung (Aceh), Pasar Miring (near Medan) and Sitiung Station were at least 90 percent completed during the Quarter. Planning for advanced phases of construction at Sukarami and Sitiung; and for new construction at Kayu Agung (South Sumatra) and at Taman Bogo (Lampung) were largely completed during the Quarter. However, the vexing problem of a domestic water supply at Sumani (near Solok) has not yet been resolved - almost one

year after construction was completed (World Bank Loan).

Most of the first commodity procurement order with the exception of several small generators were cleared from the Padang port and inventoried during the reporting period.

Then on February 23 to March 8 a group of 18 SARIF station drivers and mechanics were trained at Sukarami in the assembly, operation and maintenance of tractors and field machinery with the assistance of three Berca (PT) Ltd. mechanics (from the Ford tractor agency in Jakarta). Field machinery included 7 medium (15 hp) and 6 large (47 hp) 4-wheel drive Ford tractors, and 20 Intec smaller (5-7 hp) 2-wheel, walking tractors together with the appropriate tillage, cultivation and transport equipment. The training included clearing, mowing and basic tillage of Sukarami field plots.

The longer term goal of appropriately mechanizing SARIF stations received an important boost with the appointment of a Voluntary Services Organization (British) mechanical engineer volunteer, Mr Paul Wilkinson. He has already had two years of experience in central Java on a similar assignment and therefore is already competent in bahasa Indonesia. Mr Wilkinson is expected to join SARIF in early June to develop the machinery workshop and help train tractor drivers and mechanics.

Two long term trainees, Messrs Zainal Lamid and Abdul Aziz, were selected 10 week NAR-II intensive English training in Bogor starting on February 13th. One of the candidates; Ir Lamid, expects to be accepted by the University of the Philippines at Los Banos (UPLB) for doctorate studies in plant physiology; while Mr Abdul Aziz may join the Master's course at IPB-Bogor on completion of English training.

Plans were made and formalities begun for the 1984/85 short term overseas training. Unfortunately, several otherwise competent candidates are deterred from such training by basic lack of English capability. Therefore, an intensive English course was begun at Sukarami on March 15th. This focuses on speaking and comprehension in three 2-hour session per week.

Initial response to the course has been enthusiastic, with more CARIF staff registering for the course than can be efficiently taught. More comprehensive English training at different levels will be offered at Sukarami when a VSO instructor arrives about August/September this year.

Final agreement was reached by the three concerned agencies (AARD, USAID and IADS) on SARF extension based on the December 10, 1983 proposal. However, this required a comprehensive amendment to the original contract. A late stage draft of the required amendment was prepared and circulated by the end of the Quarter in time for signing before the original contract expiration date on 12th April 1984.

MANPOWER RESOURCES AND STAFF DEVELOPMENT

1. Staff Profile:

A summary of the total staff strength in SARIF is given in Table 1 and 1a.

Total personnel as of March 31, 1984 is 507. Of these 215 are regulars and 292 are temporary employees.

2. Training:

a. Long-Term Training (Advanced Degree Program):

Following research staff from SARIF are continuing their further studies (M.S./Ph.D) at different institutions in Indonesia and UPLB, Philippines:

I. INDONESIA:

i) M.Sc.

1. Nasrun Husen	- Agro.Econ. IPB-Bogor	- Non-USAID
2. Abdul Kaher	- Breeding	" - "
3. Azman	- Technology	" - "
4. Darsono Sastrodipuro	- Technology	" - "
5. Syafei	- Soil & Water Mgt	" - "
6. Yunizar	- Plant Physio	" - "
7. Zadri Hamzah	- Breeding	" - "
8. Aryulis	- Plant Physio. UNPAD/Bandung	"
9. D. Ketut Tastra	- Agro.Eco.	" "
10. Adlis G.	- Cropping Systems	" "
11. Y. Zubaidah	- Plant Physio. GAMA	- "
12. Irmansyah Rusli	- " "	- "

ii) Ph.D

1. Asdirman Arief - Agronomy - IPB-Bogor - Non-USAID
2. Harry Subekti - Statistics - GAMA - "
3. Djoko Suyamto - Soil Science-GAMA - "
4. Anischan Gani - Plant Physio-UNPAD - "

II. UPLB - Philippines:i) M.S.

1. Made Oka Adyana - Agronomy/Statistics - USAID\*
2. Abdul Gani - Breeding - "
3. Nusyirwan Hasan - Entomology - "

\* All three M.S. candidates studying in UPLB under USAID-Loan Funds have been transferred to another source of funding - NAR-II/AARD - effective from April 1, 1984.

ii) Ph.D

1. Rasyidin Azwar - Breeding - Non-USAID
2. Zulkifly Zaini - Plant Physio. - "
3. Iswandi Hasan Basri-Agronomy - "

III. U.S.A.

M.S. At Sam Houston State Univ. Huntsville, Texas -  
from. Aug. '83.

1. Mohammad Jusuf Yakup - Non-USAID
2. Firdaus Kasim - "

During this reporting period, one of the M.S. candidates in UPLB-Philippines, Mr. Made Oka Adyana, successfully completed his thesis requirements, and he is being admitted to Ph.D. in the same place.

Dr. Rasyidin Azwar obtained his Ph.D. degree from UB-Philippines in March 1984. He will be returning to SARIF in May, 1984, after spending additional time at the International Rice Research Institute, Los Banos, Philippines, to gain experience on selection and varietal testing of rice crop (upland rice).

Short-Term Training (Non-degree Research & Training):

Details regarding short-term training (overseas) courses offered to SARIF staff during 1984 are given in Table 2.

In order to improve English language capability and qualify ALIGU Test, a group of following 15 SARIF <sup>Staff</sup> started their intensive training under the guidance of Mrs Linda Perry (SARF staff spouse) from March 15 until June 2, 1984.

1. Artuti, AM
2. Asadi
3. Damar Alamsyah
4. Edy Mawardi
5. I. Ketut Tastra
6. Ishak Manti
7. Khairul Zen
8. Marak Ali
9. M. Fikri Insyauddin
10. Moehar Daniel
11. Nasrun D.
12. Nursal Jalid

13. Syahrrial Abdullah
14. Syahrrial Alimin
15. Yulmar Jastra

A short-term training course on tractors assembly/ operations of 13 large 4-wheel (Ford) tractors and 20 two-wheel (hand) tractors to the following 18 SARIF operators was organized at SARIF headquarters in Sukarami from February 13 - March 8, 1984. Two experienced mechanics from M/s. Berca Indonesia PT, Jakarta, who represents Ford Tractors International in Indonesia, conducted this training course under direct supervision of Mr.J.D.Traywick, Facilities Development/Engineering Specialist - SARP, and the participants were given individual certificates upon successful completion of training.

- |                       |               |
|-----------------------|---------------|
| 1. Afrizal Malik      | - Sukarami    |
| 2. Busral             | - "           |
| 3. Zulifandi          | - "           |
| 4. Dedi Hendro Feriko | - "           |
| 5. Syamsir Alam       | -- Rambatan   |
| 6. Noviarda           | - "           |
| 7. Syamsukirman       | - Sumani      |
| 8. Harben S.          | - "           |
| 9. Syamsurizal SJ.    | - Bandar Buat |
| 10. Edywarman         | - "           |
| 11. Haryono           | - Taman Bogo  |
| 12. Sugiarto          | - "           |

Muslan Effendi	- Sitiung
Mahrumsah	- "
Mede Sukardiman	- Kayu Agung
Mahtiar	- Lampineung
Mrfi Yardi	- "
Mudirman	- Balittan

## VISITORS / MEETINGS

- January 17, 1984      Field Day at Sitiung. Governor of West Sumatra, Padang, Mr Azwar Anas; and Bupati of Solok, Mr Hasan Basri attended.
- February 6-11        AARD/CRIFC Annual Meetings at Sukarami. Governor of West Sumatra, Padang, Mr. Azwar Anas inaugurated the meetings. Pak. S.W. Sadikin, Head, AARD and senior officials from AARD/CRIFC (around 80 participants) attended the meetings.
- February 8-11        Dr. A. Colin McClung, President, IADS  
Dr. D.S. Athwal, Vice-President, IADS  
Dr. W.R. Young, Project Supervisor - IADS/NAR-II  
Pak Budhoyo S. Director - PIU/AARD - Bogor.
- February 8-12        Dr W.H. Patrick, Boyd Professor & Director, Louisiana State University, Baton Rouge, Louisiana, USA.
- February 13-15        Dr C.P Mamaril. INSFFER Coordinator, IRRI - Los Banos, Philippines.
- February 28 -  
March 3                AARD/IRRI Collaborative Rice Research Meetings, Sukarami.  
Pak Sadikin, S.W. Head, AARD, led a group of 20 senior officials/scientists from AARD/CRIFC, & the IRRI group of 7 scientists were led by Dr M.S. Swaminathan,

rch 14            Dr Virgillo R. Carangal, Cropping Systems  
Coordinator, IRRI, Los Banos, Philippines.

rch 23-24        SARIF Semi-Annual Meeting at Sukarami

- |                         |   |                       |
|-------------------------|---|-----------------------|
| 1. Dr B.H. Siwi         | - | CRIFC-Bogor           |
| 2. Mr Anwar Said        | - | "                     |
| 3. Mr Djam'an           | - | "                     |
| 4. Mr Wikarna           | - | "                     |
| 5. Mr D.E. Sianturi     | - | "                     |
| 6. Mr William P. Fuller | - | USAID-Jakarta         |
| 7. Mr K.A. Prussner     | - | "                     |
| 8. Mr A.R. Hurdus       | - | "                     |
| 9. Mr J. Sperling       | - | "                     |
| 10. Mr Suntana          | - | TEAM-4, Jakarta       |
| 11. Mr Harry Irawadi    | - | " , Padang            |
| 12. Dr A. Syarifuddin   | - | SARIF - Sukarami      |
| 13. Mr Harmel           |   | "                     |
| 14. Mr Azran Tanjung    | - | "                     |
| 15. Mr Adly Yusuf       | - | "                     |
| 16. Mr Ketut Tastra     | - | "                     |
| 17. Mrs. D. Syarifuddin | - | "                     |
| 18. Mr Syahrial Alimin  | - | "                     |
| 19. Mr Syafnuddin Ibka  | - | "                     |
| 20. Dr K.O. Rachie      | - | SARIF/IADS - Sukarami |
| 21. Mr J.D. Traywick    | - | "                     |
| 22. Dr. A. Jugsujinda   | - | "                     |
| 23. Mr. P.S. Srinivasan | - | "                     |

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BALITTAN - SUKARAMI - SARIF  
TECHNICAL/ADMINISTRATIVE STAFF

Table 1 :

As of March 31, 1984

STATION	ACADEMIC QUALIFICATION								
	Ph. D	MS / M.Sc	SARJANA	SARJUD	S L T A	S L T P	S D	NON SD	
	P.N : Hnr	P.N : Hnr	P.N : Hnr	P.N : Hnr	P.N : Hnr	P.N : Hnr	P.N : Hnr	P.N : Hnr	P.N : Hnr
BALITTAN SUKARAMI	3 : -	10 : -	34 : 22	7 : 6	43 : 73	- : 4	1 : 15	- : 7	98 : 101
<u>SUB. BALITTAN</u>									
- SUMANI	- : -	- : -	9 : 4	- : -	4 : 17	- : 3	- : 2	- : -	13 : 20
- PASAR MIRING	- : -	1 : -	- : 1	- : -	- : -	- : -	- : -	- : -	1 : 1
- SITIUNG	- : -	1 : -	- : -	- : -	- : -	- : -	- : -	- : -	1 : -
- KAYU AGUNG	- : -	1 : -	- : -	- : -	- : -	- : -	- : -	- : -	1 : -
- BERASTAGI	- : -	1 : -	6 : 5	- : -	16 : 28	- : 4	- : 3	- : -	23 : 25
<u>KEBUN PERCOBAAN</u>									
- BANDAR BUAT	- : -	- : -	- : -	- : -	3 : 4	- : -	1 : 4	- : 6	5 : 20
- SUKARAMI	- : -	- : -	1 : -	- : -	13 : 5	- : 1	1 : 3	- : 14	15 : 22
- RAMBATAN	- : -	- : -	- : -	- : -	4 : 10	1 : -	3 : 7	- : -	8 : 17
- SUMANI	- : -	- : -	- : -	- : -	1 : 2	- : 1	- : -	- : -	1 : 3
- SITIUNG	- : -	- : -	- : -	- : -	4 : 9	- : 1	- : -	- : 6	4 : 20
- GURJUR-BALIGE	- : -	- : -	- : -	- : -	5 : 4	- : -	2 : 5	- : 5	9 : 18
- LAMPINUNG	- : -	- : -	1 : 1	- : -	2 : 4	- : 1	- : -	- : -	3 : 5
- TAMAN BOGO	- : -	- : -	- : -	- : -	5 : 2	3 : 0	24 : -	- : -	32 : 2
- KAYU AGUNG	- : -	- : -	- : -	- : -	4 : 1	- : -	- : 2	- : -	4 : 3
<b>T O T A L</b>	<b>3 : -</b>	<b>14 : -</b>	<b>51 : 33</b>	<b>7 : 6</b>	<b>104 : 159</b>	<b>4 : 15</b>	<b>32 : 41</b>	<b>- : 38</b>	<b>215 : 292</b>

PN : Pegawai Negeri - Regular Staff

Hnr : Honorer - Temporary Staff

TOTAL SARIF STAFF = 507

Table 1(a)

BALITTAN - SUKARAMI - SARIF  
TECHNICAL/ADMINISTRATIVE STAFF

As of March 31, 1984

L O C A T I O N	TECHNICAL STAFF			ADMINISTRATIVE STAFF			T O T A L	
	PEG. NEGERI	HONORER	TOTAL	PEG. NEGERI	HONORER	TOTAL	PEG. NEGERI	HONORER
BALITTAN SUKARAMI	59	57	116	40	70	110	99	127
<u>SUB. BALITTAN</u>								
- SUMANI	11	17	28	2	9	11	13	26
- SITIUNG	-	-	-	1	-	1	1	-
- KAYU AGUNG	-	-	-	1	-	1	1	-
- BERANTAGI	11	12	23	10	28	38	21	40
<u>PLAUN PERCOBAAN :</u>								
- BANDAR BUAT	-	2	2	4	12	16	4	14
- SUKARAMI	7	4	11	8	20	28	15	24
- RAMBANTAN	2	9	11	6	8	14	8	17
- SUMANI	-	2	2	1	-	1	1	2
- SITIUNG	-	7	7	4	9	13	4	16
- GURUR-BELIGE	6	2	8	3	12	15	9	14
- LAMPINEUNG	1	5	6	2	1	3	3	6
- TAMAN BOJO	18	1	19	14	1	15	32	2
- KAYU AGUNG	3	1	4	1	2	3	4	3
<b>T O T A L</b>	<b>118</b>	<b>120</b>	<b>238</b>	<b>97</b>	<b>172</b>	<b>269</b>	<b>215</b>	<b>292</b>

TOTAL : 507

Table 2.

## SHORT-TERM TRAINING COURSES (OVERSEAS) BEING OFFERED TO SARIF STAFF DURING 1984

<u>PARTICIPANT</u>	<u>LOCATION/COURSE OFFERED</u>	<u>PERIOD/ DURATION</u>	<u>REMARKS</u>
1. Mr Edial Afdi Jr.Plant Physiologist BPTP-Bandar Buat	Chemical Analytical Procedures & Techniques at IRRI, Los Banos, Philippines.	3 months July-Sept	Invitation letter from IRRI received. Clearance formalities being completed.
2. Mr Nasrun D. Jr.Plant Pathologist, Sumani.	Upland Rice at IRRI, Los Banos, Philippines.	4 months July 23- Nov.2	Being processed
3. Mr Asadi Jr.Fl.Phyiologist- Bandar Buat.	- do -	- do -	- do -
4. Mr Edi Mawardi Farm Manager - B.Burt	Farm Manager & Inservice training at IRRI, Los Banos, Philippines	July 9-26 & addl.4 weeks	- do - Awaiting response from IRRI for addl.training.
5. Mr Syahrial Alimin Coordinator-SARIF, Sukarami	Agril Research Planning & Manage- ment & Agril Res. Management at Central Luzon State Univ. Munoz, Philippines	May 7 - June 2 &/Or June 4- July 12	Awaiting confirmation. Need to qualify ALIGU.
6. Mr Djam'an Head, Finance Divn, SARP/CRIFC Bogor	'Management of Agril Research Facilities and organizations' conducted by USDA-Washington, DC, USA.	July 30-Sept.7	USAID-conveyed approval; have written to USDA to confirm the course offered.
7. Dr A. Syarifuddin K Director - SARIF	Cropping System meetings in BRILANKA Administration/Research Management at IITA-Nigeria, Africa, & CIAT- Colombia	June 4-8 ? (Oct-Nov)	Arranged by IRRI Being Processed
8. Mr Made Oka Graduate Student- SARIF at UPLB- Philippines	4-day workshop at IRRI on 'Micro- Computer Applications in Agril Research'	September	

**FACILITIES PLANNING, DEVELOPMENT AND EQUIPMENT PROCUREMENT**

PLANNING - Additional site and facilities planning continued for the remaining 8-10 construction projects to be completed during the next two year extension period. For Kayu Agung consideration is still underway to use local-type elevated pillar construction for houses and other small buildings because of the uncertainty of high water during annual flooding. The Taman Bogo site plan was revised to conform with recent discussions for improving the land use, and the project was scaled down in accordance with the drastically reduced appropriations from GOI. Hopefully other buildings and remodelling can be added next year. The Rambatan site plan was revised for better building orientation and to save on plot land.

A newly revised implementation time schedule for construction projects was presented and approved at the Bi-Annual Meeting, March 23rd. A copy is in the Table 3. In order to meet this schedule, a concerted effort by all parties must be made. At the Bi-Annual Meeting Dr Syarifuddin announced that he will take the leadership on coordinating the implementation of the station development contracting--conducting monthly meetings, making assignments of personnel for implementation, and helping streamline the 28 procedural steps involved in bidding, contracting to final inspection.

TEAM IV has proposed that all construction plans be finished according to schedules, and not according to budgetting. After designs, detailed plans, and other documents are approved, the complete budget can then be prepared and presented. This should save considerable time.

#### Development

Contracts underway during this quarter were:

Sukarami - Office/Laboratory complex and Guest House/  
Boarding House/Cafeteria complex.

Both of these will be completed during the next quarter and turned over to the project by the contractor.

Sitiung - Housing, part of Service Center, roads, etc.

This was completed but final inspections had not been made.

P. Miring- Housing, Service Center, Civil Works.

Although this project is still not completed, very little progress was made during the quarter. A field/inspection trip report by J.D. Traywick pointed out many items needing urgent attention in order to get this project finished up satisfactorily. Hopefully, all remaining construction jobs can be completed early in the next quarter, so that this Station can be staffed, equipped and put into operation.

The two farm development contracts for Sukarami and Sitiung have been further delayed pending a solution for

paying design and inspection fees, in the absence of standards by local Public Works Offices. Hopefully, this problem will be solved soon so that contracting and construction can begin during the second quarter.

It is planned that farm development work at the other 5 Stations will be done by the Project's staff and equipment, and by hiring some outside labor and surveyors. By doing its own planning, purchase of materials and undertaking the work with its technicians and equipment, much time and expense will be saved in the building of fences, farm roads, canals, and field shaping operations.

#### Procurement

On the first equipment order, all items have been received, inventoried and assembled, with the exception of 2 - 100 KVA and 12 3.5 KVA electrical generators and spare parts.

The second order, mainly laboratory equipment, was being prepared for shipment, after a long delay in obtaining the Letter of Credit Number.

The third order, office/communication/field/research equipment was still being held up pending a solution on new GOI procurement procedures. New meetings are planned early in April in order to reach agreements for proceeding with this order as well as procedures for the 4th (last) order.

The list and specifications for the 4th and last equipment order will be finalized during the next several months.

For a more detailed resume on equipment procurement, refer to the minutes of the SEMI-ANNUAL Meeting, March -24th.

SARP - CONSTRUCTION TIME SCHEDULE

Table 3

NO	DESCRIPTION	SUKARAMI IV	K.AGUNG I	SITIUNG II	RAMBATAN	SUKARAMI V	SITIUNG III	TAMAN BOGO I	PS.MIRING II
Fiscal year		83/84	83/84	83/84	84/85	84/85	84/85	84/85	84/85
1 .	Final program	-	-	-	March 84	March 84	March 84	March 84	March 84
2 .	Revision of program	Jan.84	Jan.84	Jan.84	-	-	-	-	-
3 .	Design start	Nov.83	Nov.83	Nov.83	March 84	March 84	March 84	March 84	March 84
4 .	Submission to AID	Jan.84	Jan.84	Jan.84	31 May 84	7 June 84	7 June 84	15 June 84	31 May 84
5 .	Design reviewed by AID	25Jan-15Feb. 84	25Jan-15Feb 84	25Jan-15Feb 84	1Jun-21Jun 84	14Jun-5Jul 84	14Jun-5Jul 84	22Jun-13Jul 84	1Jun-21Jul 84
6..	Team-4 Revision	16Feb-8Mar 84	16Feb-8Mar 84	16Feb-8Mar 84	22Jun-13Jul 84	6Jul-27Jul 84	6Jul-27Jul 84	14Jul-14Aug 84	22Jun-13Jul 84
7 .	Final design approval by AID	15March 84	30April 84	15March 84	20Jul.84	8August 84	8August 84	20August.84	20July.84
8 .	Pre bid explanation	15April 84	28April 84	15April 84	20August 84	8Sept.84	8Sept.84	20Sept.84	25August 84
9 .	SPK/Letter of award	15June 84	28June 84	15 July 84	20 Oct.84	8 Nov.84	8 Nov.84	20 Nov.84	25 Oct.84
10 .	Construction completed	15 Febr. 85	28 Jun.85	15 July 85	20 June. 85	8 Nov.85	8 Nov.85	20 July.85	25 June.85
11 .	Final acceptance by AID	15 May. 85	28 Sept.85	15 Oct.85	20 Sept.85	8 Febr.86	8 Febr.86	20 Oct.85	25 Sept.85

## TECHNICAL ASSISTANCE

### PERSONNEL

K.O. Rachie	Project Specialist
J.D. Traywick	Facilities Development/ Engineering Specialist
A. Jugsujinda	Soil and Water Management Specialist
D.H. Perry	Agricultural Economics Specialist
P.S. Srinivasan	Administration Specialist

### RESIDENT SPECIALIST ACTIVITIES

The five resident specialists were present throughout the First Quarter 1984 with the exception of the Administration Specialist who returned from home leave on 18 January 1984. However, all five members of the SARF/IADS team were directly involved in the five events and meetings hosted at Sukarami and Sitiung during January to March. In fact, each of the resident specialists provided lodging in their homes for one to three external participants to three of the meetings.

Project Specialist. The PS (KOR) was directly involved with the several SARIF events during the quarter; and with implementing the formalities of the SARF extension. The latter necessitated a trip to Bogor/Jakarta on February 21 to 23. He also travelled to Sitiung twice in January to participate in events there and inspect the research underway. Other activities included writing of the 1983

Fourth Quarter Report, planning the 1984/85 training program, preparing for the visit of Drs A.C. McClung and D.S. Athwal (IADS Headquarters), and organizing the SARP Second Semester 1983 Semiannual Meeting on March 23-24. He also helped plan an upland rice crossing program for the SARIF - actual crossing will probably be done at Bandar Buat where appropriate facilities are available.

Soil and Water Management Specialist. The SWMS (AJ) continued his highly productive consultation with SARIF staff on their individual research program and experiments. In the course of these activities he visited Sitiung several times on January 5-7, 16-17 and 31; February 1-3 and 6; on March 5-7. While there he also participated in harvesting Wet Season experiments including two very interesting studies on regenerative cropping involving associations of upland rice and lamtoro (*Leucaena*). Other activities included participation in the Sukarami and Sitiung field days and in preparing descriptive handouts (in English) on the Sitiung station and its programs for foreign visitors. The SWMS was also invited to attend an international conference on problem rice soils held at IRRI in Los Banos, Philippines during March 26-31st.

Economics Specialist. The Agricultural Economist (DHP) was heavily preoccupied in preparing for and participating in a national workshop on maize production/marketing organized by BULOG and the Food Research Institute of Standford University and held in Jakarta on January 23-27th.

He also participated in the Sukarami - Sitiung major events held on February 6-11th and February 28th - March 3rd. These and other activities involved travel to Rambatan and Sitiung on January 10-12th and to Sitiung on February 22-23rd. Then on March 19-27, DHP organized a new project to study production and marketing patterns in older, established transmigration areas in Lampung and dating to the 1950's. The results of these studies will be discussed in the next report.

Engineering Specialist. The Agricultural Engineer (JDT) continued his coordinating role on construction and procurement necessitating travel to Jakarta (Bogor on January 3-6th and February 6-9th). He was also heavily preoccupied with inventorying the first equipment order and in organizing a tractor operator/mechanics course held on February 23 to March 8th. Other activities included contributions to the Fourth Quarter 1983 Report, monitoring construction and station development at Pasar Miring on March 8-10th and at Rambatan on March 28th.

Administration Specialist. The Administrator (PSS) returned from home leave in India on January 18th. From then to the end of the Quarter he was heavily occupied with preparing the Fourth Quarter 1983 Report, organizing the SARP Second Semester 1983 Semiannual Meeting and participating in the several events held at Sukarami during this period. He continued his active role in imple-

menting training plans for 1984/85; overseeing the routine secretarial work; supervising the SARP Padang Office-cum-Guest House; and reporting of SARP/IADS accounts.

#### SHORT-TERM CONSULTANTS

The only staff member in this category during the Quarter was Mr Paul Mundy assigned to the SARIF Bogor Office. However, Mr Mundy completed his assignment on January 15th as English Editor and Tutor with the CRIFC and accepted a similar, continuing role with NAR-II in the same office. His final contribution to SARIF was to edit the Scholz' book on "The Natural Region of Sumatra and their Agricultural Production Pattern : A Regional Analysis. Volume 2: Maps.

## FINANCE

I. Budgets:

There are no revisions of Grant and Loan Fund budgets.

Total GOI budget allocation for the past four years (FY 1980-81 - 1983-84) is Rp. 3.92 billion (Table 5).

II. Fund Release and Expenditures:

Detailed statements regarding expenditures against Grant and Loan Funds, and GOI contribution for the period ending March 31, 1984, are summarized in the following Tables:

Grant Funds: Table 4: This includes budget allocation and expenditures as of March 31, 1984 for Technical Assistance (Resident Specialists, Consultants, IADS HQ Exp/overhead, etc.). From the total allocated budget of \$2.5 million, 70% or \$1.47 million has so far been spent under Grant Funds.

Loan Funds: Table 5: Out of \$1.15 million allocated for training (both long-term - advanced degree training, and short-term - non-degree research and training) only 22.59% has so far been utilized.

GOI Counterpart: Table 6: Summary of GOI counterpart contribution. From the total allocated budget (Rupiah) for the past 4 years

(1980-81 to 1983-84) of Rp.3.92 billion, total expenditure as of March 31, 1984 is Rp. 2.87 billion or 73%.

Table 7 : Breakdown of GOI contributions/ expenditures by two centers - SARP/Sukarami and SARP/Bogor.

Table 8 : Summary of GOI expenditures in support of Technical Assistance.

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Table 4 : Summary of Disbursements (for the period ending 31 March 1984)  
GRANT FUNDS in US \$

EXPENSE ITEMS	BUDGET 1979-'84 \$	EXPENDITURES			% EXP/BUD
		Previous \$	Current \$	Total \$	
<u>Direct Cost</u>					
• Resident Specialists	1,517,775	1,102,420.57	83,086.63	1,185,507.20	78.11
• Consultants	220,100	124,533.27	-	124,533.27	56.58
• IADS HQ Staff & exp.	114,000	105,807.64	3,886.74	109,694.38	96.22
Total Direct Costs	1,851,875	1,332,761.48	86,973.37	1,419,734.85	76.66
<u>IADS Overhead</u> <sup>1/</sup>	277,781	291,022.48	19,525.53	310,548.01	111.80
Pre-Contract Expenses	16,000	-	-	16,000.00	-
T o t a l	2,145,656	1,623,783.96	106,498.90	1,746,282.86	81.39
Contingency for inflation.	354,344	-	-	-	-
GRAND TOTAL \$	2,500,000	1,623,783.96	106,498.90	1,746,282.86	69.85

<sup>1/</sup> Adjusted at 22.45%

NOTE: Data provided by IADS/Washington

Table 5 : Summary of Disbursements (for the period ending 31 March, 1984)LOAN FUNDS in US \$Training

EXPENSE ITEMS	BUDGET 1979-'84 \$	EXPENDITURES			% EXP/BUD
		Previous \$	Current \$	Total \$	
<u>I. International Training Program</u>					
A. Advanced Degree Training	701,250	89,020.38	3,850.63	92,871.01	13.24
B. Other Training	112,500	113,584.04	6,962.32	120,546.36	107.15
Total \$	813,750	202,604.42	10,812.95	213,417.37	26.23
II. <u>IADS Overhead</u> <sup>1/</sup>	122,200	43,889.70	2,427.51	46,317.21	37.90
III. <u>Adjustment for Inflation</u>	146,500	-	-	-	
IV. Contingency	67,550	-	-	-	
GRAND TOTAL \$	1,150,000	246,494.12	13,240.46	259,734.58	22.59

<sup>1/</sup> Adjusted at 22.45%

B. Construction : No. drawdown

C. Equipment/Vehicle: \$500,000 (Estimated).

Table 6 :

Summary of GOI budget, funds, received, and balances (as of March 31, 1984)

DIP YEAR	BUDGET ('000) Rp.	TREASURY FUNDS RECEIVED	EXPENDITURES	BALANCE IN BUDGET	BALANCE ON HAND	% OF BUDGET
1980 - 81	500,000 (407,067)	499,892,091 (304,810,920)	492,892,091 (304,810,920)	7,107,080 (96,256,080)	7,000,000	98.58
1981 - 82	847,720	805,400,076.89	797,387,822	50,332,178	8,012,254.89	94.06
1982 - 83	1,126,109	1,023,809,809.74	1,015,880,126.24	110,228,873.76	7,929,683.50	90.21
1983 - 84	1,447,290	586,327,000	56,767,392	805,522,608	24,559,608	38.82
TOTAL	Rp. 3,921,119 (401,067)	2,915,428,977.63 (304,810,920)	2,867,927,431.24 (304,810,920)	1,053,191,568.76 (96,256,080)	47,501,546.39 -	73.14

**Table 7 :** Breakdown of GOI budgets, expenditures and balances (as of March 31, 1984)  
(by Costs Centers - SAR/Sukarami & SAR/Bogor)

DIP YEAR	: B U D G E T ( '000) Rp.	: E X P E N D I T U R E S			B A L A N C E	: % EXP/BUD
		PREVIOUS	: CURRENT	: T O T A L		
<u>SAR/SUKARAMI</u>						
1980 - 81	441,800 (407,067)	315,216,696.40 (240,640,200)	119,526,104.60 (64,170,720)	434,743,801 (304,810,920)	7,057,199 (96,256,080)	98.40
1981 - 82	776,000	705,537,039.29	25,304,537,71	730,841,577	45,158,423	94.18
1982 - 83	1,049,032	883,819,424.43	65,809,951.81	949,629,376.24	99,402,623.76	90.52
1983 - 84	1,384,436	372,423,601.-	147,649,696	520,073,297	864,352,703	37.57
Sub-Total	3,651,268 (407,067)	2,276,996,761.12 (240,640,200)	358,290,290.12 (64,170,720)	2,635,287,051.24 (304,810,926)	1,015,980,948.76 (96,256,080)	72.17
<u>SAR/BOGOR</u>						
1980 - 81	58,200	58,149,290	-	58,149,290	50,710	99.91
1981 - 82	71,720	66,172,095	374,150	66,546,245	5,173,755	92.79
1982 - 83	77,077	65,861,560	389,190	66,250,750	10,826,250	65.95
1983 - 84	62,854	27,642,500	14,051,595	41,694,095	21,159,905	66.33
Sub-Total	269,851	217,825,445	14,814,935	232,640,380	37,210,620	86.21
T O T A L	Rp. 3,921,119	2,494,822,206.12 (240,640,200)	373,105,225.12 (64,170,720)	2,867,927,431.24 (304,810,926)	1,053,191,568.76 (96,256,080)	73.14

Table 8 : GOI Expenditures in support to Technical Assistance (as of March 31, 1984)

EXPENSE ITEM (by fiscal year)	: BUDGET Rp. ('000)	: E X P E N D I T U R E S			: BALANCE	: % EXP/BUD.
		: Previous	: Current	: Total		
<u>DIP Budget 1980-81</u>						
Local Employees	2,500	2,499,000	-	2,499,000	1,000	99
Office Expense	1,700	1,700,000	-	1,700,000	-	100
Travel IADS Staff	7,000	7,000,000	-	7,000,000	-	100
Hotel Costs	750	750,000	-	750,000	-	100
House rent Maint	30,000	30,000,000	-	30,000,000	-	100
Auto service	3,520	3,520,000	-	3,520,000	-	100
Documentation	1,200	1,200,000	-	1,200,000	-	100
Sub - Total	Rp 46,670	46,669,000	-	46,669,000	1,000	99
<u>DIP Budget 1981-82</u>						
Local Employees	2,640	2,500,000	-	2,500,000	180,000	93
Office Expense	2,500	2,500,000	-	2,500,000	-	100
Travel IADS Staff	7,500	7,500,000	-	7,500,000	-	100
Hotel Costs	1,000	1,000,000	-	1,000,000	-	100
House rent/Maint	16,000	16,000,000	-	16,000,000	-	100
Auto service	4,500	4,500,000	-	4,500,000	-	100
Documentation	1,000	1,000,000	-	1,000,000	-	100
Equipment	7,500	7,500,000	-	7,500,000	-	100
Transportation	3,000	3,000,000	-	3,000,000	-	100
Exit permit etc	1,400	1,382,400	17,600	1,400,000	-	100
Sub - Total	Rp 47,080	46,882,400	17,600	46,900,000	180,000	99

## GOI Expenditures in support to Technical Assistance (as of 31 March, 1984)

EXPENSE ITEM (by fiscal year)	BUDGET ('000) Rp.	EXPENDITURES			BALANCE	% EXP/BUD
		PREVIOUS	CURRENT	TOTAL		
<u>DIP Budget 1982-83</u>						
Local Employees	4,500	4,075,000	-	4,075,000	425,000	99
Office Expense	2,000	2,000,000	-	2,000,000	-	100
Equipment	5,000	5,000,000	-	5,000,000	-	100
Travel IADS Staff	15,000	15,000,000	-	15,000,000	-	-
House rent/Maint	20,000	20,000,000	-	20,000,000	-	100
Hotel Costs	2,500	2,487,810	-	2,487,810.50	12,189.50	99
Auto Service	7,050	7,050,000	-	7,050,000	-	100
Documentation	3,000	3,000,000	-	3,000,000	-	100
Transportation	800	800,000	-	800,000	-	100
Exit, permit, etc.	2,000	1,960,150	39,850	2,000,000	-	100
Sub-Total Rp.	61,850	61,372,960.50	39,850	61,412,810.50	437,189.50	99
*) Revisi DIP tgl 24, June 1982 No. B. 149/KWDJA/IV.1/6/1982.						
<u>DIP Budget 1983-84</u>						
Local Employees	4,599	3,438,000	1,146,000	4,584,000	15,000	99
Office Expense	2,000	1,625,150	374,850	2,000,000	-	100
Travel IADS Staff	15,000	10,899,920	4,099,675	14,999,595	405	99
House rent/Maint	13,500	13,500,000	-	13,500,000	-	100
Handling costs	42,000	-	-	-	42,000,000	-
Auto Service	5,850	4,943,880	897,760	5,841,640	8,360	99
Sub-Total Rp.	82,949	34,406,950	6,518,285	40,925,235	42,023,765	50
TOTAL Rp.	238,549	189,331,310.50	6,575,735	195,907,045.50	42,641,954.50	82

FOURTH FIVE YEAR PLAN (PELITA IV)-1984-1989

## SUKARAMI RESEARCH INSTITUTE FOR FOOD CROPS (SARIF)

## I. INTRODUCTION

Sukarami Research Institute for Food Crops (SARIF) is one of the six research institutes under the Central Research Institute for Food Crops (CRIFC) of the Indonesian Agency for Agricultural Research and Development (AARD).

National development requires technology, and technology is produced through research. SARIF is an institute with the major purpose of developing crops production technology. Other sources of food crops technology are universities, other research institutes, farmers, private companies, and individual researchers. SARIF must also communicate the technology it develops to its clients, who include farmers, the extension services, policymakers, and educators.

As a government institution, SARIF must develop technology to support the national development effort. This technology may create new opportunities for food crops production, as it may be developed in response to an existing problem. SARIF must therefore keep in close contact with:

- farmers
- extension workers
- policy makers and implementers
- other researchers
- scientists
- educators and trainers.

Up to the end of the Third Five Year Plan period (1984), SARIF had not yet attained the ability to produce maximum outputs. The research infrastructure and equipment, the staff themselves, and the administrative support are not yet ready to function optimally.

The above considerations must be taken into account in designing the work plan of SARIF. The duties and functions, and the organizational structure of SARIF will be described in separate sections of this paper.

## II. Major duties and functions

The SARIF is commissioned to conduct research on food crops in upland (non-irrigated) areas with a wet climate, and in high-elevation irrigated/wetland areas. SARIF has a national mandate for these research programs. SARIF's research responsibilities include:

1. Developing technology for management of upland areas with a wet climate.
2. Developing technology for upland rice production in such areas.
3. Developing technology for non-rice food (pulses) crop production in these areas.
4. Developing technology for high-elevation wetland rice production.
5. Communicating the technology developed to those who require it.

The technology developed by SARIF will include alternative techniques, materials and equipment. These alternatives must be further tested by the extension services before being recommended to farmers or used for a development policy decision. Several alternatives may be selected or tested to indicate one or more technologies suited to an area.

## III. OBJECTIVES

With the above functions in mind, it is possible to state the

long-term objective of the development of SARIF:

"The creation of an institute which is strong and dynamic in fulfilling its duties and functions".

The goals of SARIF's work program in the Fourth Five Year Plan period are to:

1. Develop and communicate to user groups a number of alternative technologies for food crops production and management of upland (wet climate) and high-elevation wetland.
2. Develop skilled staff for research, and for research support, services and dissemination, in accordance with requirements.
3. Develop and use efficiently and effectively sufficient infrastructure and facilities for research and research dissemination.

The work program of SARIF may change in accordance with its long-term goals, the national development program, and technological and scientific advances.

#### IV Work Program

SARIF has the following four work programs:

1. Research
2. Staff development
3. Infrastructure and facilities development
4. Technology transfer

##### 1. Research Program

The research program of SARIF consists of various aspects:

- a. Research on food crops and management of upland areas with a wet climate. This research covers upland rice, non-rice food (pnlawija) crops, and other crops relevant to dryland cultivation. The major

objective of this program is to obtain alternative crop technologies for the management of the soil, water, and other natural resources so as to allow farmers to obtain a reasonable living, while concurrently observing principles of resource conservation and environmental harmony. This program consists of cooperative research on cropping systems among scientists from various disciplines and commodities. The focus for the Fourth Five Year Plan period will be on red-yellow podsolc soils, level and rolling topography, and on rainfed banded lands.

b. Research on upland rice. This program endeavors to develop technology able to produce upland rice yields of at least 3t/ha that are relatively stable and of good quality, with medium inputs. The research will focus on: podsolc soils (with low pH and Al toxicity), blast disease, plant-hoppers, seedling fly and rice bug pests, weeds, and cultivation methods.

c. Research on palawija crops. This program aims to develop technology for the production of non-rice food crops as an element in cropping systems in upland areas with a wet climate and in rainfed banded lands. The research will focus on corn, soybean, cassava and peanut.

d. Research on high-elevation irrigated/wetland rice. The objective of this program is to obtain technology able to produce consistent rice yields of 5 t/ha, of good quality and with medium inputs. The focus will be on the problems of empty grains (low temperature) and blast disease.

These programs will be divided between the following sub-institutes and experiment farms:

Sukarami (West Sumatra): high-elevation irrigated rice.

Sitiung (West Sumatra): dryland areas, upland rice and palawija crops in a wet climate.

Rambatan (West Sumatra): upland rice and palawija crops.

Taman Bogo (Lampung): dryland areas, upland rice and palawija crops in a medium wet climate.

Lampineung (Aceh): rainfed banded lands.

Sumani (West Sumatra): pests of upland rice and palawija crops.

Bandar Buat (West Sumatra): seed multiplication.

## 2. Staff development program

Table 1 shows manpower requirements that may be achieved in 1990. These requirements take into account the main duties and functions of SARIF, the characteristics of each type of work, the organizational structure, and the equipment to be used. They may change if the duties, functions or organization of SARIF alters, or because of advances in science and technology. On 31 December 1983, SARIF had: 1 PhD, 16 MS, 79 Sarjana, 15 Sarjana Muda(BS), 258 high school graduates, and 129 middle/primary school graduates. The number of staff is below the required number in all categories except high school graduates. The number of these will decline with the separation of horticultural research from the functions of SARIF, as given under the recent reorganization of AARD. The staff development program consists of various aspects.

a. Increasing staff numbers. Table 1 shows that more staff are needed in all categories except high school graduates. Scientists with Ph.D or MS degrees are very difficult to recruit directly, and must therefore be obtained by educating those staff who have sarjana degrees. During the next five years, SARIF must increase its staff by:

Sarjana : 118-96 = 22 persons

Middle/junior school graduates: 239-129 = 110 persons

These numbers take into account research, support and service activities. The numbers of middle/junior school graduates required may fall as skills in using equipment improve. Because of this, the numbers of staff in this category will be increased only in the final stages. At present the numbers of these staff is limited by the "honorar" (probationary/temporary) requirements of their employment. The following have attained full "Civil Servant" status: 1 Ph.D, 16 MS, 48 Sarjana, 5 Sarjana Muda, 105 high school, and 40 middle/junior school graduates.

Staff numbers will be increased gradually in accordance with the budget available. This implies the addition of 5-7 new sarjanas each year for the next 5 years. The possibility of staff honorar and retirement must also be taken into account.

Table 1 Planned staff requirements for SARIF, 1990 (by education)

Group a	PHD	MS	<u>Sarjana</u>	<u>Sarjana Muda</u>	High School	Middle/junior School
1. Director	1	-	-	-	-	-
2. Breeding	3	9	6	-	20	10
3. Agronomy	3	9	12	-	18	7
4. Pests	3	7	4	-	12	4
5. Diseases	2	7	4	-	12	3
6. Physiology	2	7	4	-	12	5
7. Agro-economics	2	5	5	-	8	-
8. Post Harvest/ Mechanization	1	3	2	-	4	3
9. Statistics <i>Agri. Engr.</i>	-	2	1	-	4	-

(Continued)

Table 1 Planned staff requirements for SARIF, 1990 (by education)

Group a	PhD	MS	Sarjana	Sarjana Euda	High School	Middle/Junior School
10. Laboratory	-	1	5	-	9	10
11. Library/publications	-	-	1	2	8	2
12. Workshop	-	-	1	1	7	16
13. Administration	-	-	4	9	27	29
14. Experiment farms	-	-	4	2	69	150
T O T A L	17	50	53	14	210	239

a 1 - 9 : technical staff

10 - 12 and some of 14 : support staff

13 and some of 14 : service staff

b. Development of staff skills. It is clear that the existing staff are still underqualified. Therefore, the staff skills development program will continue to include both long term (post graduate) and short term (specialist skills) training. Table 2 shows the situation at the end of the Third Five Year Plan (1984) and the requirements for postgraduate training during the period of the Fourth Plan.

Table 2. SARIF staff with higher degrees at the end of the Third Five Year Plan, and requirements during the Fourth Plan, and requirements during the Fourth Plan period.

Qualification	Completed study	At present studying	Additional Requirement during 4th Plan	Total requirement
Ph D	1	7	8	16
MS	16	27	17	50

If suitable candidates and sufficient funds are available, the manpower development program will continue even though the total requirement may have even reached.

Short term specialist skills courses will continue to be important in developing staff abilities. Funds are available to send 14 persons abroad for about 3 months each for such training. Up to present, about 35 persons have attended courses within Indonesia each year. This policy will be continued. A number of courses will be held by SARIF itself or in cooperation with other institutions in the region. Such courses may cover technical subjects as well as administration. If Civil Service (pra-jabatan) and Civics (PL) courses are included, the total number of staff enrolled in courses will exceed 100 each year.

c. Management and control of personnel administration.

Up to the end of the Third Five Year Plan, the administration of personnel has not been adequately carried out. The reason is insufficient level of education and performance of the personnel staff. The ability of this department to handle its duties will be improved by gradual recruitment of suitably qualified persons, and by further education of existing staff. It is hoped that individuals' career will not be adversely affected by this policy, and that each person will be able to achieve a satisfactory work performance.

d. Staff social services. Services such as staff housing, cooperatives and transport to and from work will continue to be provided and increased in the next five years. More cooperative ventures will be established. Researchers will be encouraged to contribute their services at the

highest level of achievement in order to improve their qualifications. Their functional ranking will directly affect their responsibilities and assignment within the institute.

### 3. Infrastructure and facilities development program

The development of infrastructure and facilities began in the first year of the Third Five Year Plan, and will continue in the Fourth Plan period. It is suggested that the minimum requirements can be completed by the third year of this Plan, and further work will be of a "topping out" nature. Appendices 1-7 contain details of this work. Not included in these appendices is the status of the Sumani sub-institute which has been completed (except for some aspects of experiment station development).

Another aspects of this program is the development of equipment and machines. There will also be a minimal requirement for transport which will be met in the first year of the Fourth Plan. Almost all the field equipment had been procured by the end of the Third Plan. Most of the laboratory, research dissemination and communication equipment will be available in the first two years of the Fourth Plan.

### 4. Technology transfer

Only a part of the technology transfer program activities were realized during the Third Plan period. Those aspects that have been covered are poorly regulated and some are incidental in nature. During the next five years these activities will be expanded and improved to increase their regulation, efficiency and effectiveness.

This program includes:

- a. Publication of journals, bulletins, newsletters, etc.
- b. Regular seminars to communicate research results
- c. Organized discussions with clients
- d. Field days
- e. Workshops, symposia and conferences on agricultural research
- f. Displays of new technology
- g. Correspondence
- h. Seed provision.

V. Funding

The Development funds for SARIF are obtained through the national budget. These funds originate from the Indonesian Government, a USAID loan and grant, and a World Bank loan. A side from the research budget, the following funding for SARIF development has been approved:

	\$US
1. Government of Indonesia	7,500,000
2. USAID loan	7,000,000
3. USAID grant	2,500,000
4. World Bank loan-administered through AARD	

The funds under 1,2 and 3 above are administered by SARIF. These funds relate to the period 1978-84, which has now been extended to April 1986. Thus \$US 13,676,100 will be spent by the end of the Third Plan, and the remaining \$3,323,900 will be spent in the first two years of the Fourth Plan.

In addition to the above funds, the Government of Indonesia provides monies through the national budget funds for research, research dissemi-

nation and administration. As an example, in the 1983-84 financial year Rp 650,000,000 (about \$650,000) was made available for these purposes. For the Fourth Plan period, between Rp 700 and Rp 1000 million will be required each year.

#### VI. Organization

SARIF is organized internally as shown in Figure 1. At the center (Sukarami) and at each sub-institute, the scientists are organized into research groups in the following disciplines:

##### Research group

Agronomy

Breeding

Physiology

Pests

Diseases

Agro-economics

Post harvest technology

Not all of these groups may be present at the sub-institutes; those present will reflect the major functions of the sub-institute.

Figure 1. Organizational Structure  
of SARIF, 1984

