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**AGENCY FOR  
AGRICULTURAL RESEARCH AND DEVELOPMENT**



**Narrative Report  
on the  
Applied Agricultural Research Project**

**FOR THE  
MONTH FEBRUARY 1983**

NARRATIVE REPORT  
OF THE  
APPLIED AGRICULTURAL RESEARCH PROJECT  
FOR THE  
MONTH OF FEBRUARY 1983

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NARRATIVE REPORT  
OF THE  
APPLIED AGRICULTURAL RESEARCH PROJECT  
FOR THE  
MONTH OF FEBRUARY 1983

I. Introduction

Highlights of the month were:

- Orientation of two new long term specialists and arrival of a third.
- Short term assignment of Dr. A.M. Beachell of IRRI to assist the rice research evaluation and planning.
- Complications in the construction program at Bogor Research Institute for Food Crops.
- Beginnings on revision of the Detailed Implementation Plan.
- Meetings to initiate the AARD Manpower Training Study.
- Preliminary discussions of AARP procurement.

II. Personnel

Two long term expatriate specialists who arrived in late January attended orientation meetings in early February. The new experts were Dr. Fritz von Fleckenstein, Agricultural Economist assigned to the Maros Research Institute for Food Crops (MORIF) and Dr. Kevitt Brown, Deep Water Rice

Breeder assigned to the Banjarmasin Research Institute for Food Crops (BARIF). The orientation meetings involved Mr. Sadikin Sumintawikarta, Director General of AARD, Dr. Ibrahim Manwan, Director of the Center for Agricultural Research Programming, Mr. A. Abdullah, AARP Project Leader, and Mr. Alan Hurdus, USAID, as well as RMI officers and AARP/RMI specialists located in the Bogor/Jakarta area. Dr. William L. Collier AARP/RMI Chief-of-Party, accompanied both new specialists to their assignment locations.

Ms. Greta Watson, Social Scientist/Agricultural Economist assigned to BARIF arrived in Jakarta February 28, thus raising the number of fulltime long term AARP/RMI specialists to nine. A short term consultant, Dr. H.M. Beachell of IRRI, spent the month assisting the Bogor Research Institute for Food Crops (BORIF) in evaluation and a long term rice research program.

RMI has signed long term contracts with three additional specialists scheduled to join the project as follows:

- Dr. Chhorn Lim, Milkfish Nutritionist for the Research Institute for Inland Fisheries, Bogor, March 1. Dr. Chhorn Lim is now in the process of converting from refugee status to get a U.S. passport. We have advised that a delay of a month or so would be acceptable in order to complete that process.
- Dr. John Bolton, Soil Scientist for BARIF, March 10.
- Ms. Diane Barrett, Tuber Crops Post Harvest Processing Specialist, Bogor Research Institute for Food Crops, April 1.

RMI is also negotiating with Dr. Bernardo Gabriel for assignment as Entomologist at BARIF in May 1983 and with Dr. William Vanstone as Milkfish Breeder at the new Gondol Inland Fisheries Research Station in Bali about October 1.

### III. Staff Activities

1. Dr. William L. Collier, Chief-of-Party, made two trips to introduce the new AARP staff and establish the office at BARIF and MORIF. He assisted CARP (PUSGRAM) in developing a program on intensive agriculture and sustainability and preparing for an international workshop on tropical fruits research. He participated in preparing a proposal for a manpower training study for AARD and is helping AARP prepare a detailed plan for the 1983-1987 period.
  
2. Carl R. Fritz, Administrative Specialist, continued to work on budgeting, financial and administrative matters, worked with AARP officers in planning participant training schedule for February and March and made arrangements with USAID for conducting ALIGU tests at Banjarmasin and Maros; and participated in orientation of incoming experts. He was also involved in meetings with AARP officers regarding the study of AARD manpower training requirements and revision of the Detailed Implementation Plan, and meetings with AARP and USAID regarding procurement, changes in location of planned research station sites, and reallocation of some loan funds.

Because of housing requirements of specialists arriving during January-March 1983, rupiah budgetary requirements for the current quarter amount to Rp 101 million. As of February 28, 1983, RMI expenditures under the AARP contract totalled US\$ 483,400 of grant funds, US\$ 270,700 of loan funds and Rp 113,650,000 of local counterpart funds. Rp 55 million has been borrowed from RMI during the past two months pending receipt of Government funds anticipated March 2.

3. James C. Myers, Jakarta based Training Coordinator, supported Mr. Fritz in making arrangements for training and arranged for the orderly departure of Mrs. Ati Sri Duriat. Walter Flinn, Washington, D.C. Training Administrator, communicated with various training institutions in the U.S. and arranged for Mrs. Duriat's orientation by the Washington International Center and her reception at the American Type Culture Collection. He also communicated with various candidates for AARP/RMI specialist positions and helped them with preparations and arrangements for their departure for Indonesia.
  
4. Roland E. Harwood, Research Station Development Specialist, was concerned with construction problems in Bogor with both contractors during much of February. The buildings under construction were stopped because of sub-standard work. All columns poured for the auditorium were demolished as they did not meet minimum standards.

Hammer tests were made to check the quality of the concrete in the building foundations. More testing will be done to determine whether the foundations can meet minimum specifications.

All form work at the auditorium site was turned down due to its poor quality and new and stronger forms have been built. Construction management has been improved and the concrete mixing operations have been organized to produce a better and more uniform mix.

Several meetings were held with the three architectural firms that are working with the AARP. The completed plans for the Bogor construction in 1982-83, were delivered to USAID for their study and approval.

The construction plans for the laboratory and greenhouse at Maros were completed except for the plans of the water treatment plant. The completed plans were delivered to USAID and the necessary information was obtained to finish the water plant plans within the next week.

The construction plans for Banjarbaru, 1982-83, are nearly completed.

5. Dr. Jerry McIntosh, Farming Systems Specialist assigned under the RMI/IRRI consultancy agreement, edited and revised preliminary drafts of project proposals for three different research areas. He joined inspection tours of on-site research and problem areas in the Pasir Pangaraian Transmigration area, the Way Abung Transmigration area,

and in the vicinity of Medan, North Sumatra. He also participated in the INSFFER monitoring tour. For more information, refer to Appendix I.

6. Dr. Fritz von Fleckenstein, Agricultural Economist, Maros Research Institute for Food Crops (MORIF), has been busy orienting himself to the local research program and studying ways by which he can be most helpful. In addition, he has taken over responsibility for AARP/RMI administrative and financial chores at MORIF with the able assistance of Mr. Nurdin Salam, Administrative Assistant. Dr. von Fleckenstein activity report is found in Appendix II.
7. Dr. Igmidio T. Corpuz, Soil Scientist, MORIF, worked closely with the committee which made preparations for the International Network on Soil Fertility and Fertilizer Evaluation for Rice (INSFFER) site visit at MORIF which was conducted February 21, and assisted in preparation of six papers for the INSFFER site visit. Dr. Corpuz's report and copies of the six papers are found at Appendix III.
8. Dr. Anwar Rizvi, Plant Pathologist at MORIF, met with the staff at the Lanrang Sub Station on the planting situation of rice tungro virus (PTV) nursery at this station and discussed the method of screening for resistance to rice sheath blight. He also met with members of the Plant Protection Department at MORIF for orientation on the department. He also participated in the INSFFER meetings at MORIF. He also made two field trips (see Appendix IV).

9. Dr. Kevitt Brown, Deep Water Rice Breeder, Banjarmasin Research Institute for Food Crops (BARIF), spent the month orienting himself to BARIF and South Kalimantan, visiting four distinctly different rice growing areas, both direct and indirect tidal swamp areas, an upland area and a deep water rice area, and participated in discussions for planning next years experiments. Mrs. Brown has also joined the BARIF staff as a maize breeder. Dr. Brown's monthly activity report is located at Appendix V.

#### IV. Training

Mrs. Ati Srie Duriat, Plant Virologist at the Lembang Research Institute for Horticulture (LERIH) departed for training in the Elisa technique for potato virus detection at the American Type Culture Collection in Rockville, Maryland. This training was based on a proposal prepared by Mrs. Duriat, and required solicitation of several universities before RMI located an institution prepared to provide the training within the three month period Mrs. Duriat was available.

Only five AARP participants were in overseas training at the end of February, all from LERIH. In addition to Mrs. Duriat, four LERIH scientists were in team training in vegetable breeding at the Asian Vegetable Research and Development Center, Taiwan.

As of February 28, 42 AARP participants had departed for overseas training, 35 of them under RMI auspices. Details are found in Appendix VI.

During March, two researchers from the Forest Products Research Institute, Bogor, will embark on a one month study of coconut wood in the Philippines, and a participant from the Research Institute for Inland Fisheries, Bogor, will begin an aquaculture training program at Auburn University.

On February 28, Mr. Soebroto of USAID conducted an ALIGU English language test for 29 employees of the Banjarmasin Research Institute for Food Crops. Only two passed. He plans to conduct the test at Maros on April 9.

The AARD Manpower Training Study got under way this month with the selection of AARD staff to work on it. Dr. Ibrahim Manwan, Head of the Center for Agricultural Research Programming, conducted a preliminary meeting on the subject. Mr. A. Abdullah, AARP Project Leader, conducted a full scale meeting February 23, which included officers representative of AARD as well as Dr. Collier and Mr. Fritz and the IADS Training Advisor for the National Agricultural Research Project, Dr. Ralph Retzlaff. A schedule was set forth for the circulation of questionnaires, the collection of data, its analysis and the development of a long term program of training for AARD.

#### V. Procurement of Equipment

With the help of Mr. Flinn in Washington, we have received a number of catalogues relating to farm and field equipment, and Mr. Harwood is assisting AARP officers in the development of

specifications using the AARP master list as a guide. Preliminary discussions were held with Mr. Hurdus of USAID during February, and a meeting is scheduled for March 10-11 for AARP discussions with Mr. Viragh, USAID Regional Procurement Officer. A principal topic will be procedures for selecting a procurement service agent.

CABLE ADDRESS :  
IRRIAID BOGOR

MAIL ADDRESS  
COOPERATIVE CRIFC - IIRI PROGRAM  
IRRI - P.O. Box No. 107  
BOGOR, INDONESIA

March 8, 1983

To : Dr. J. Ritchie Cowan  
IRRI Liaison Scientist

From : Jerry L. McIntosh *Jerry L. McIntosh*  
Cropping Systems Liaison Scientist

Subject : Monthly Report — February 1983

I. Principal Accomplishments and Activities

A. Project proposals and position papers. — Editing and revision of preliminary drafts of project proposals were completed for three different research areas. These include:

1. Management of farm resources in Upland Rainfed Agriculture.
2. On-farm Water Management Research.
3. Upland Rice

B. Inspect on-site research and problem areas:

1. Pasir Pangaraian Transmigration Area, Feb. 12-15, 4 days
2. Way Abung Transmigration Area Feb. 23-24, 2 days
3. Medan and vicinity, BPH Feb. 26-28, 3 days

C. Preparation and participation for INSFFER Monitoring Tour.

1. Arrangements for participants and tour.
2. Editing of papers.
3. Unable to participate in program except for final planning sessions due to other pressing activities.

II. Miscellaneous Activities

A. Consultations and Visitors

1. Agri. Systems Consultants for development project in South Tapanuli, North Sumatra:

Tom Morrison  
John Hancock  
M. MacDonald

2. NABISCO Consultant for development of fructose processing facilities:

Edward Wardrip

3. MCC Agriculture support for Transmigration, Tulangbawang and West Kalimantan:

Mr. Harder

4. Consultant to Public Works for Irrigation Projects in Central Sulawesi:

Mr. Duff

5. AARD Colleagues for:

- a. Agricultural support to Transmigration
- b. Cropping Systems research
- c. Fertilizer efficiency
4. English class
5. USAID - Upper river watershed project review
6. Hank Beachell

- B. Seminars and Meetings:

1. GEU

2. Seminar:

Blast  
Geography of Sumatra  
BPH

3. Special meetings on BPH strategy

### III. Support to improve performance

- A. Specific individuals identified to work with in editing and reviewing project proposals.

- B. Implementation of specific projects to work with.

### IV. Plans

- A. AARD/IRRI Collaborative Meetings and follow-up.
  - B. Preparation and editing of papers for the IRRC in April.
  - C. Preparation of paper for International Soybean Conference.
  - D. Assist colleagues in carrying out Farming Systems Research.
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Fritz von Flockenstein  
Agricultural Economist  
MORIF

### Activities

#### 1. House-hunting

This activity, and the subsequent settling into the house, has taken up quite a bit of time. The house has now received its shakedown cruise, and is almost in perfect order now. The contract, a direct translation of the Jakarta model except for the addition of one word in one clause, is on its way to Jakarta for approval by David Salman.

#### 2. Orientation to Maros

This activity is continuing. It got off to a good start with the preparation of the forms for the manpower survey, and the initiation of this survey by me among the agroeconomists who happened to be at Maros in February, but it lapsed while I experienced an interesting new form of influenza which seems to be going the rounds in Ujung Pandang. (Ruth also joined in this experience, but varied it by adding a bacterial infection. She is now recovering.)

#### 3. Learning Indonesian

This has been mostly an informal process of recapturing Indonesian which I once had, but also of learning new words, largely in the agricultural and agricultural economics fields. My attempts at communication with the agricultural economists at Maros (2 professionals and 4 SPMA graduates) were done with dictionary in hand, and we managed a combination of English and Indonesian that was a wonder to behold. Still, it seems to work.

During my illness, I was involved largely in moving house, discussing logistical matters with various people, and in this process, I managed to learn quite a few Indonesian terms.

#### 4. Background reading

During my illness I was able to read all of the thesis on the transmigrants from Bali to central Sulawesi, and I would welcome any more ENGLISH materials that I could get on Sulawesi, as they are in short supply here (euphemism for UNAVAILABLE).

#### 5. RMI office logistics

This has taken more time than I imagined it would, although Murdin Salam is quite good. We have tried out various procedures, and are continuing to explore ways to live within our means. We ~~are~~ know they are slender, and we know we are not living within them, but we justify present expenditures as being largely capital expenditures, bringing the cars up to standard and providing needed office equipment and furniture. March will also be a big expenditure month, as a lot of the office furniture will be paid for in that month. It seems to be impossible to stay within the vehicle maintenance and fuel budget, no matter what we do. We are, however, pleased by the success of the Telexogram solution to our problem of communication with Jakarta.

### 6. Manpower survey

After obtaining the latest version of the lists prepared by Sarawatha, I designed a form to get the additional information needed, and allocated responsibility for getting this information to the three RMI staff members here. Dr. Rizvi has been gathering information from Pathology and Entomology, Dr. Corpus from Soils and Agronomy, and I from Agroecology and Mechanization. This work is still unfinished, particularly since a number of kelompok heads and Dr. Farid Bahar were away in February. A number of people not on the list (SPMA enumerators and technicians) are turning up, and we are gathering information on them as well. I also plan to try to cover the administrative staff, time permitting.

### 7. Computer procurement

~~XXXXXXXXXXXXXXXXXXXX~~

Before coming to Indonesia, I explored this problem extensively, and finally took the plunge by buying my own computer (which I dearly long to see). After arriving in Indonesia, I talked to a number of users in Jakarta, but unfortunately missed seeing P. Lambrecht at the soils institute, and Stan Woods, their computer specialist, who I now hear have successfully run FARMAP on the Superbrain. I was able to talk to Mr. Dent, the project manager, in Ujung Pandang, and to get useful information from him which was very heartening. Finally, in response to a letter to C. van ~~Sandten~~ Sandten, an agricultural economist at Malang, I received information about the nationwide network of Hewlett Packard computers of various sizes which is being set up by PAE. I was even told that ~~MORIF~~ MORIF would receive an HP-86 in the near future!

I also explored the local computer situation. The UNHAS computer centre has a large Honeywell, but also a small Wang microcomputer. In addition, there is a representative of TRS-80 (Radio Shack) in Ujung Pandang, ~~which~~ but they have no resident technicians. Both UNHAS and the Radio Shack people say that technicians will come out from Jakarta within a day or two to service the machines.

I am preparing a report on the microcomputer situation, but as PAE people are planning to visit Maros in March, the final word will not be clear until then. If they give us ~~an HP-86~~ an HP-86, that will definitely affect our options.

### 8. Agricultural economics

I am at present feeling my way. I have had some useful bilingual sessions with the agroeconomists here during February, in which I got some feeling for the way in which ideas might be communicated. One incident made an impression on me. One of the economists had just received her copy of the IRN, IRRI's newsletter. There was an article describing the economic analysis of some cropping systems research in Pakistan. In looking at the table, she asked how the Benefit/Cost ratio had been calculated. We worked it out (the table was not a particularly good example of a clear table) and she still found it confusing. She pulled out some of her own worksheets and showed me the formula that she used:

$$\frac{B_t - B_f}{C_t - C_f} = B/C$$

where t is the situation using the new technology (cropping pattern) and f is the farmer's traditional cropping pattern.

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I explained that what the authors of the article had done was to show a number of different cropping systems, each with  $B_t/C_t$ , but, as a comparison, also some traditional cropping systems, each with its  $B_f/C_f$ . Unfortunately, the table did not clearly distinguish the traditional from the improved cropping systems, but by reading the article carefully, we were able to identify them. I showed her how the authors could have improved their table by adding headings:

Improved cropping systems

- 1.
- 2.
- 3.

Traditional cropping systems

- 1.
- 2.

At any rate, I said, the way the authors had calculated allowed us to compare any cropping system with any other cropping system. It was also simple. She was quite intrigued by this ~~direct~~ discovery, and sat down to study the table in the article carefully.

The reason I mention this incident is that it gave me an insight into the way in which I am likely to be able to impart information here, or at least to facilitate the imparting of information. Even though communication is difficult, it is much easier in a one-to-one situation than in a classroom or lecture situation, or even a large discussion session. Dr. Corruz has mentioned to me the problems he faced in getting any response at all to his talks in the past, and it may be that the communication problems are simply too great to make this form of presentation a meaningful one. I will admit that I was extremely lucky in the encounter I have described, because it just so happened that the staff member was working on analysis of cropping systems at the time that she happened to see the article. All I did was answer the questions the article raised in her mind, to the best of my ability.

My other experience has been less dramatic, but I have also discussed work on marketing channels which another staff member is doing. I have learned something from him about rice marketing in Sulawesi, and he may have learned something from me different measures of income, but I am still not sure exactly what it is he is trying to do.

On 27 February, however, both Dr. Farid Bahar and Sarasutha, the kepala kelompok Agro Ekonomi came back to Maros, and my understanding of the department has been improving rapidly. I had gotten the list of research done in 1982/83 and had laboriously translated it, and I was able to get a better idea of exactly what it involved from Sarasutha. We will meet with the whole department soon to hear about the work done in 82/83 in

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preparation for the seminar to be given by the economists in March or April. We will later talk about the plans for 1983/84, and have a longer session with Dr. Farid Bahar. Saranatha is anxious to take me out into the field to show me what they are doing now, and I am more than ready to go with him.

Another bit of stimulus has recently come from the outside in response to a letter to Malang asking about the Farmer Panel studies about which I had heard rumours. This is a project of PAE, which envisions the help of all agr economists working in AARD, an continuing and on-going monitoring of samples of farmers in each agro-ecological zone. The approach is whole-farm (or, in the new jargon, farming systems) as opposed to the one-crop production economics approach currently used. MORIF is expected to join in this effort, and IAD staff members are to visit Maros in the near future to talk to us about the programme.

From my initial talks with Dr. Farid Bahar, it seems likely that such an approach is precisely what he is referring to when he says that he wants the Agro Economic department to look at the total farming environment and to delineate the feasible alternatives available to farmers in any particular place: not only the physical constraints, but also the social and economic constraints.

The Lura project may also bear visiting, as it boasts a number of highly-trained professionals who have been working in that area for 4 years, and have a wealth of experience to share with us. Among other things, they are using a Hewlett-Packard 86 microcomputer!

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• Training, formal

No formal training has been done, but I have prepared a tentative list of topics (for either single lectures, or series of lectures) which I could possibly give, were it desired. I would like to discuss this list with Dr. Farid Bahar before ~~is~~ drafting a formal syllabus, however.

Report of Activities for the  
Month of February, 1983

Igmidio T. Corpuz

I. Activities and Accomplishments

- A. Worked very closely with the Committee created which made the necessary preparations for the International Network on Soil Fertility and Fertilizer Evaluation for Rice (INSFFER) Site Visit Tour at Maros Research Institute for Food Crops which was held last February 21, 1983.
- B. Participated actively in writing the background papers for the discussion session which was held in the afternoon of February 21, 1983 the day when the INSFFER Site Visit Tour was held. The papers include the following :
  1. Long Term Effects on NPK Fertilizers applied Singly or in Combinations on Rice Yields in alluvial Soils in South Sulawesi, Indonesia. Ch.J.S.Momuat, E.O.Momuat, C.P.Mamaril and I.T.Corpuz (appendix A).
  2. Nitrogen Fertilizer Efficiency in Rainfed Wetland Rice, Takalar 1982 W.S, Agustina Buntan, Christine J.S.Momuat and I.T.Corpuz (appendix B).
  3. Efficiency of Nitrogen Fertilizer Application in Rainfed Wetland Rice at Bontoa, Maros, South Sulawesi, W.S 1982 (Mufran Rauf, Reginald le Cerff and I.T.Corpuz) (appendix C).
  4. Correcting Rice Yields Partially Damage by Animals : A Proposal, I.T. Corpuz (appendix D).
  5. A note on the use of urea supergranules, I.T. Corpuz (appendix E).
  6. Soil Research Priorities in Sulawesi, I.T.Corpuz (appendix F).
- C. Travel made :
  1. Lanrang Substation - February 4, 1983  
Trip Report ( appendix I)
- D. Plans for March, 1983 :
  1. To actively participate in the generation of experimental data from on going experiments.
  2. To assist in the analysis of research data and report preparation.
  3. To actively participate in a weekly English discussion on important scientific and relevant issues in agriculture.

Trip Report  
Official Trip to Lanrang Substation  
on February 4, 1983

Because the INSFFER Site Visit Tour participants were not scheduled to visit the Lanrang Substation, Dr. Farid Bahar Director of the Institute suggested that slide pictures of the INSFFER Trials at the substation be taken and to be shown to the participants.

The trip was made together with the official photographer of the Institute and Ir. Reginald le Cerff Soil and Soil Fertility research staff member for the purpose of taking slide pictures of the Nitrogen Fertilizer Efficiency on Irrigated Wetland Rice Experiment. Earlier, another group went to the substation to take slide pictures of the Long Term Fertility Experiment. They were not able to take slide pictures of the Nitrogen Fertilizer Efficiency Experiment because they did not have with them the exact definition of the different treatments. Unfortunately the Substation Director, Ir. Koesnang does not have a copy of the project outlines of the experiments conducted at the station. The field man from the Soil and Soil Fertility Department assigned fulltime in the station does not have a copy of the project outline either. This is an unfortunate situation. The Substation Director, told me that every now and then, there were visitors in the station who observed the different experiments. Where treatments differ dramatically the visitor asked why the difference. He admitted most of the time he was put in an embarrassing situation. His only answer was " I don't know ".

Certainly we brought with us the field layout defining the different treatments of the Nitrogen Fertilizer Efficiency Experiment which we left to the field man from the Soil Department.

Upon my return to Maros I immediately suggested to the Acting Head of the Soil Department to provide the substation Director the complete project outline of all the experiments conducted in the station by the Department.

I was told treatments of experiments are designated only by numbers and not the exact definition of the treatment for fear that other people may take pictures of the experiment and prepare a report without crediting the source. Whether <sup>that</sup> is validity in the fear I am not sure. I see no conflict if other people will take pictures of the experiments showing dramatic results. After all the field is open to everybody. There should be no secrecy since it is a public research institution.

Monthly Report for February, 1983

Dr. Anwar Rizvi

I. Activities :

I have my first meeting with Dr. William Collier, Chief of Party for RMI-AARP when he visited Ujung Pandang in early February, 1983. Along with him came Dr. Fritz Von Fleckenstein, Agricultural Economist, new staff member of RMI team in Ujung Pandang. While in Ujung Pandang, Dr. Collier gave an orientation regarding RMI-AARP activities. Discussions were held on the possible future activities at MORIF i.e. organisation of workshops, seminars, lectures etc. on various topics in Plant Pathology and other disciplines.

Present facilities of MORIF's plant pathology laboratory were shown to Dr. Collier and discussed possible ways to improve them keeping in view areas of research for our future involvement. A communication was sent to the International Potato Center (CIP) to initiate contacts for the laboratory development.

Participated in discussions/seminars with MORIF staff and three visiting members of Eastern Group of Asian Development Bank on Plant Protection strategies in Indonesia. ADB team members were : Sir Roger Swynerton (team leader), Dr. J.C. Davies (Entomologist) and Mr. C. Parker (Weeds Expert). Later, a tour of Entomology greenhouse and fields at MORIF was conducted to see ongoing research projects.

Meeting with Ir. Koesnang, Head of Lanrang Sub-station was held to review the planting situation of rice tungro virus (RTV) nursery at Lanrang. It was suggested that an insect collection and their identification should be made from the rice fields in Lanrang.

Assisted Ir. Syaharuddin of Plant Pathology Department to prepare a list of most important fungal diseases of upland and lowland rice in Sulawesi, in order of their importance in each situation. Discussed with him about the method of screening for resistance to rice sheath blight (*Corticium sasakii*) and prepared him for a departmental seminar on this topic. Discussions were held with Ir. Yulianto and Ir. Syaharuddin, Plant Pathology Department, regarding their ongoing research experiments. A list of their experiments was prepared. Further observations will be made to suggest means and methods to increase the efficiency of their experiments.

Assisted Dr. Fritz Von Fleckenstein in preparing biodata form for further training of MORIF staff and collected data on the available staff of Departments of Plant Pathology, Entomology and Plant Breeding. Completed forms were submitted to Dr. Fritz Von Fleckenstein.

Through the help of Mr. A.M. Laponangi, acting Director of MORIF a meeting was arranged with the staff of Plant Protection Department, University Hasanuddin in Ujung Pandang. Plant Protection Department includes staff of both Plant Pathology and Entomology. Mrs. Zaenab, present Head of the Department is the only staff of Plant Pathology. Ir. Shagir Sama, Head Entomology Department at MORIF, accompanied me on my trip to University Hasanuddin. I oriented myself with their activities and certain areas were identified for future collaboration in their various ongoing research as well as teaching projects.

An acquaintance meeting was held with Ir.Saleh Pandang, Head of Agronomy Department at MORIF. He gave me an overview of his departmental activities and we discussed plans for future collaboration in areas of mutual interest. An experiment to study the effect of rice stubbles on the spread of rice tungro virus (RTV) under farmer field conditions was planned.

Participated the staff meeting called by Dr.Bambang, Ex-head of Plant Breeding Department at MORIF, to discuss brown planthopper (BPH) and RTV situation in Indonesia. We discussed development of strategies to fight against this pest and disease and newly assigned mandate/research responsibilities amongst major Institute in Indonesia.

Attended INSFFER meetings at MORIF and discussed with Dr.Greenland, Deputy Director General of IRRI and other visitors from IRRI topics of mutual interest regarding rice pests and disease. Contact has been made with IRRI to obtain information on training materials and to develop a closer collaboration in our work at MORIF and with IRRI scientist working in similar projects.

Assisted Ir.Syaharuddin and Ir.Yulianto of Plant Pathology Department to design an experiment to determine the varietal reaction to blast and its control by fungicides. Included in the experiment will be IR56 also, a latest blast resistant variety released by IRRI during June 1982. However, IR56 seems to be susceptible to blast at MORIF and we should be careful in promoting its wide spread use in Sumatera, where blast is a major problem of rice. Therefore, resistance to blast in IR56 reported by IRRI needs an immediate further evaluation.

## II. Travels made :

1. On February 03 to 04 to the Agricultural Extension office at Bantaeng and visited area of horticultural crops in Desa Loka (Trip report-Appendix 1).
2. On February 23 to 24 to the Institute's sub-station at Lanrang to visit rice tungro virus (RTV) nursery experiment (Trip report-Appendix 2).

## II. Plans for March :

1. Continue observations of rice tungro virus nursery at Lanrang.
2. Assist plant pathology staff in setting up their experiments, collection of data, preparation of research reports and development of seminar on their individual research projects.
3. Initiate collaborative work with the staff of University Hasanuddin.
4. Assist Institute's staff to prepare research papers and presentations for meetings and their publication in scientific journals.
5. Develop plans to improve the existing facilities as well as methodology for rice tungro virus (RTV) nursery testing project at MORIF.

## TRIP REPORT

Official trip to Agricultural Extension Station  
at Bantaeng and Horticultural crops site in Desa  
Loka on February 03 to 04, 1983

Trip was made together with Ir. Syaharuddin Rahamma and Mr. Syahrir of Plant Pathology Department, MORIF. Purpose of the trip was to acquaint myself with the pathological problems of horticultural crops and recommend to the farmers possible control measures against diseases present in the area.

In Bantaeng we met with Ir. Syaair, Subject Matter Specialist in Extension, Mr. Yosep Kiding and Mr. Hasan Ishaq, staff of the local Agricultural Extension Station. Ir. Syaair explained that Cabbage, potato and onion are the main horticultural crops. However, Rice, corn and peanuts are also grown with corn the most important crop of the area, as it holds maximum hectareage.

Later, Mr. Ishaq accompanied us to Desa Loka to show us the potato fields. Desa Loka is situated at about 1,050 meters above sea level and is about 20 kilometers from Bantaeng which is about 5 meters above sea level. Road from Bantaeng to Desa Loka is an uphill climb and very rough, stony and one must use a 4 wheel drive to get there.

About 4 years ago five improved (as farmers in Desa Loka refer to them) potato varieties namely Donata, Rosima, Thung with white tubers and Desiree, Rapan with red tubers were introduced to this location from Lembang. Two local varieties namely Baflander and Kalosi with white tubers are also grown in the area. Total land under potato crop is about 200-250 hectares. People prefer and pay a relatively higher price for white potatoes than red potatoes. Average yield is about 7 tons per hectare which is quite low as compared to many potato producing countries in South East Asia.

In Desa Loka, we met three farmers namely, Mr. Naso, Mr. Ganing and Mr. Nusi and visited their potato fields. Plants were at flowering stage. Main constraint to potato production seems to be late blight infection. When we were there, whole area was covered with a fog. It seemed as if we were standing in a big mist chamber. For the rapid spread of late blight organism (Phytophthora infestans) it is the most ideal condition. We saw two experiments being conducted by Extension personnels regarding the effect of various dosage and combination of different fertilizers on potato yield.

Farmers have been using Dithane M45 to control potato late blight but without much success. There was no awareness on the elimination of infected plants and tubers which were left in the field, creating an omni-present situation for the inoculum in the field. The fungus requires high moisture and cool temperatures to infect, grow and spread. All these conditions are available in Desa Loka.

Following measures were suggested to control potato late blight :

1. A more effective fungicide like Benlate should be used according to the recommendations on the label. Spraying with fungicides will protect the foliage from infection, provided the sprays are timely, adequately cover the upper and lower leaf surfaces. If sprayed fungicides are washed off with rain, it is necessary to spray again for an effective control.
2. Use of new resistant varieties can help somewhat to protect potato crop against late blight but the problem is that there are many " races " of fungus and a potato variety will be resistant to only one or a few of them. Therefore, chemical protection of foliage is the only effective means of control. Only a few spores blown in from outside the field can start the disease, if weather is favourable. Under cool, moist conditions, these primary infections can produce billions of spores in as little as four days.
3. If infected vines are alive, the late blight fungus can remain active and may produce spores capable of infecting tubers. Therefore late blight infected potato plants should be eliminated and destroyed completely as soon as infection becomes apparent.
4. Spores washed off the infected vines by rain are carried into cracks in the soil. Tubers are then infected in the soil by germination of the spores. Adequate hilling may give some protection against tuber infection by keeping the tubers well below the soil surface.
5. Fungus needs living host to grow and reproduce. Fungus alone in soil can not remain alive for more than a few weeks under cool and moist conditions, however, it can persist for longer periods in living, infected tubers. Blighted tubers that survive winter and later on sprout are a major source of blight spores for the next season's infection. Farmers should make special effort to kill blighted tuber and not to leave them in the field, a practice noticed at the moment. Elimination of blighted plants, tubers, sprouting tubers can have considerable value in reducing sources of infection at early stages of next season crop.

It is hoped that by adapting the aforementioned suggestions, farmers in Desa Loka can improve the quality as well as the quantity of their production.

Farmers were also asked to call upon us through the Agricultural Extension staff of their area if they need further advice or help on pathological potato problems in future.

Dr. Syed Anwar Rizvi  
Plant Pathologist/MORIR

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## TRIP REPORT

Official trip to Sub-station Lanrang  
on February 23 to 24, 1983

Trip was made together with Ir. Syaharuddin Rahamma of Plant Pathology Department, MORIF. The purpose of the trip was to follow up on the planting of rice tungro virus (RTV) nursery and get a clear picture of the whole experiment as it was laid out in the field at Lanrang.

In Lanrang, we met Mr. Kamaluddin, Head of the farms (Kepala Kebun) and Mr. Baharuddin, Technical Assistant for RTV experiment. Ir. Koesnang, Head of Lanrang Sub-station was away to visit farmer's fields in Enrekang.

Mr. Baharuddin showed us the fields where RTV nursery was planted. All planting was complete. There were seven plots in total. In six plots rice breeding lines from various sources like Maros, Bogor, IRR1 etc. were planted, whereas, one plot was with rice varieties to score their reaction to naturally occurring infection of RTV in Lanrang.

Within each plot of breeding lines there were 6-10 blocks, depending on the size of various plots, with 40 breeding lines in each block. Each breeding line has 20 plants in two rows of 10 plants each. The distance from plant to plant and row to row was 20 cm. After every two rows of a breeding line, there were two rows of susceptible (TN1) variety. After every 10th breeding line, 2 rows of susceptible, 2 rows resistant (IR50) and then 2 rows of susceptible variety were planted. Each plot has five rows of TN1 before the beginning and after the end of test lines. All this material was healthy at the time of planting. At the end of each block and along the whole of a plot, there were two rows of RTV infected rice plants of variety IR42 or IR54 brought from an infected field in Pinrang. Then a space of 40 cm was left empty before the beginning of the next block. / length

The RTV infected rice plants were to serve as source of inoculum for the spread of RTV depending upon the natural built up of RTV vector, green leafhopper (Nephotettix virescens), populations in Lanrang experimental fields. It was apparent that there was not enough inoculum available to put in the field as only 6 out of 10 blocks of one plot in the whole experiment were provided with RTV infected plants. Vector population was also low. No RTV infected rice plants and/or vector were produced artificially to use as source of RTV inoculum in this experiment.

Lay out of the plot for the test varieties was different than those of the breeding lines plots. No RTV infected rice plants were planted in this plot as source of RTV inoculum. Experiment was dependent on natural infection or on the hope that infection will evenly and uniformly spread to the rest of the experimental materials from the six blocks of one plot of breeding lines. Each of these 6 blocks contained two rows of RTV infected rice plants. Breeding lines (total: 2,084) were planted in three groups on different dates i.e. 720, 760 and 604 lines on February 02, 08 and 15, respectively. Number of IRR1 materials included in the test was breeding

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lines. RTV infected rice plants were planted 10 days later with a part of the lines planted on February 02. Rice varieties (total : 51) for the test were planted on February 10, 1983. All test materials under such a lay-out of an experiment do not have an effective and equal opportunity of exposure to RTV inoculum. Therefore, I do have my doubts about the reliability of the results obtained from such an experiment.

I will do my best to improve this existing situation on experimental design and methodology to make Lanrang RTV nursery screening test reliable, efficient and effective. During March 1983, I shall discuss my plans of action with Dr. Farid Bahar, Director of MORIF, for his approval and advice to accomplish the Institute's goal of making MORIF a national center for RTV research.

Dr. Syed Anwar Rizvi  
Plant Pathology/MORIF

Monthly Report: February, 1983 Revitt Brown - Deep water rice breeder

My wife and I arrived in Banjarmasin on February 7, after a week of orientation in Bogor with RMI/AARP personnel. We have since found a suitable home in Banjarmasin and will move there in early March. We have already hired a driver and a dozen applicants have been interviewed for the positions of secretary and administrative assistant. My work this month has centered in four main categories of activities:

#### I. Orientation to Kalimantan Selatan and BARIF

- 1) My counterpart, Suhaimi Sulaiman (MSc. plant breeding), speaks english well and is keen to have me work with him to improve his program. The only other breeder, Ir. Hadiatmi, also speaks english. We expect to work closely with the two of them and expect good progress in training and research over the next two years. Many of the other staff are away for civil service training this month, and the head of the station, Dr. Hans Anwarhan, has also been away on trips. English is a problem at BARIF as a whole, but we are able to communicate with most of the technicians if we speak slowly.
- 2) BARIF facilities are presently inadequate for good research. A high priority will be to order materials and establish a better facility for seed storage, and for rat and bird control in the field. Laboratory and library facilities are also inadequate but are a lower priority now.
- 3) To date we have visited four distinct rice growing areas:
  - a) Tamban-direct tidal swamp area: The primary agricultural interest is coconut and palowija once drainage has been improved. Suhaimi suggests and I agree that direct tidal areas are a lower priority area now.
  - b) Handil Manarap-indirect tidal swamp area: Rice is the only viable crop in the indirect tidal swamp and the potential area is very large. This year farmers have had success with a double cropping system involving an improved variety followed by the traditional variety. Further submergence tolerance is needed in the varieties. Tentatively this will be my highest priority area.
  - c) Binuang-upland area: The research site is good but the upland rice screening procedures need to be improved. The possibility of improving upland rice is questionable, but at least a better research program can be established, and this will be a high priority.
  - d) Sungai Buluh-deepwater rice area: All the trials here were either destroyed by unpredictable high flooding or by water currents. More background information is needed on the area before committing too much research on varietal improvement. This area will be a lower priority.

#### II. Discussion of 1983-84 BARIF experimental plans

The technical staff of BARIF held a discussion to plan next years experiments on February 14 to 21. My observations and conclusions include the following:

- 1) Each technician and scientist has too many field trials and other responsibilities to effectively perform his duties.
- 2) Often people are in charge of experiments outside of their discipline and training and do not receive enough support from more knowledgeable people because they are already overburdened.
- 3) Experiments tend to be too large and lack a single clear objective.
- 4) Many trials lack adequate farmer orientation including farmer level controls. Some experiments lacked controls altogether.
- 5) People at BARIF communicate well together and have a fair theoretical background for designing experiments, but may need additional practical field training.

### III. Possible activities of Kevitt and Sara Brown (1983-1984)

The following ~~are~~ ten activities were discussed with Suhaimi Sulaiman and are suggested as tentative objectives and procedures for my wife and/or myself over the next two years:

- 1) Seed storage, handling, and inventory.
  - a) Review present method
  - b) Propose improvements
  - c) order materials
  - d) implementation
- 2) Establish crossing program for rice and corn:
  - a) Design procedure and facilities
  - b) Review parents and make crosses
  - c) Seminars and field training of personnel
- 3) Improvement of facilities.
  - a) Review facilities at all sites for plant breeding research
  - b) propose and order materials for library, fields, laboratory, and field labs and workshops
- 4) Improve system of data collection and recording for plant breeding.
  - a) Discuss type of data desired and manner of collection
  - b) Produce training manual for technicians to collect data
  - c) Organize field books of technicians and scientist
- 5) Planning and coordination of plant breeding experiments.
  - a) help plan experiments for coming seasons
  - b) discuss efficient plan to manage and coordinate breeding program
    - crossing program
    - early generation program
    - initial screening program for pure lines
    - elite material screening program
  - c) help to implement breeding program during transition period
- 6) Review and improve screening methods for
  - a) deepwater area
  - b) rainfed lowland area
  - c) upland area
  - d) indirect tidal swamp area
  - e) direct tidal swamp area
  - f) secondary crops
  - g) submergence tolerance
  - h) early drought tolerance
  - i) late drought tolerance
  - j) rice blast resistance
  - k) problem soil tolerance
  - l) insect and disease resistance
- 7) Review seminar series
  - a) Give seminars at BARIF
  - b) Give seminars and training sessions in the field
  - c) Assign seminar topics
  - d) Assign seminars by technicians on their research areas
- 8) Characterize Kalimantan rice growing environments
  - a) Make field tours of rice areas in South and Central Kalimantan
  - b) Establish simple site characterization trials for need of:
    - elongation ability
    - submergence tolerance
    - drought tolerance
    - plant height
    - maturity date
    - problem soil tolerance
- 9) International and Intranational communication
  - a) Obtain international nurseries and submit reports
  - b) Write publications with local staff
  - c) Travel outside Kalimantan Selatan with BARIF staff
  - d) Host outside visitors
- 10) Help with topics not listed here but suggested by S. Sulaiman, H. Anwarhan, and others

## LIST OF AARP/RMI PARTICIPANTS AS OF FEBRUARY 28, 1983

No.	NAME	EMPLOYING OFFICE	COURSE/OBJECTIVES	INSTITUTIONS/COUNTRY	DURATION
	<u>DEPARTURE:</u>				
1.	Ati Sri Duriat	LERIH/Lembang	Elisa Technique	American Type Culture Center in Rockville Maryland, USA	Feb.20-May 28,83
	<u>CONTINUING IN TRAINING:</u>				
2.	Nani Sumarni	LERIF/Lembang	Interdisciplinary research in Plant Breeding	Asian Vegetable Res. & Dev. Center, Taiwan.	Nov.07-May.07,83
3.	Etti Purwati	- do -	- do -	- do -	- do -
4.	Yoyo Sulyo	- do -	- do -	- do -	- do -
5.	R.E.Suriantmadja	- do -	- do -	- do -	- do -
	<u>RETURNEES:</u>				
6.	Mas Ismunadji	BORIF/Bogor	Spec.Trng. in upland crops physiology	- do -	Nov.01-Dec.01,82
7.	Mohamad Sirdan	CARP/Jakarta	Project Preparation & Evaluation in Ag. and Rural Development	Statistical,Economic & Social Research & Trng.Center for Islamic Countries, Turkey	Oct.18-Nov.12,82
8.	Syafril Lamsayun	CARP/Jakarta	Procurement Training	TransCentury Corp.USA	Oct.15-Nov.14,82
9.	A.M.Laponangi	MORIF/Maros	- do -	- do -	- do -
10.	Abdussamad Syahrani	BARIF/Banjarmasin	- do -	- do -	- do -
11.	Warsito Hutomo	C A Q/ Jakarta	Agric.Proj.Planning & Analysis Section II.	USDA,Washington,DC	Sept.7-Nov.11,82
12.	Mohamad Mansur	CRIC/Bogor	- do -	- do -	- do -
13.	Hafni Zahari Syukri	CARP/ Jakarta	- do -	- do -	- do -
14.	Wahyadi Sosrowardoyo	CRIFI/Jakarta	Applic.and Diffusion of Agric.Research Results to the Community Level	Iowa State Univ. USA	Aug.25-Oct.1,82

No.	N A M E	EMPLOYING OFFICE	COURSE/OBJECTIVES	INSTITUTIONS/COUNTRY	DURATION
15.	Sofyan Ilyas	RIFT/ Jakarta	Determination & Prevention of Postharvest Food Losses	Cornell Univ. USA	Sept.6-Oct.13,82
16.	Achmad Hidayat	CAQ/ Jakarta	Plant Quarantine	USDA,Wash. D.C.	Jul.19-Sept.17,82
17.	Dewa M. Tantera	BORIF/ Bogor	Integrated Pest.Mgmt.	Purdue Univ.USA	June 9-Jul23,82
18.	Sudiarto	CRIIC/ Bogor	Agric.Research Method.	Kansas State Univ.USA	May 31-Jul.23,82
19.	Lalu Sukarno	BORIF/ Bogor	- do -	- do -	- do -
20.	Siti Sufiani	MORIF/ Maros	- do -	- do -	- do -
21.	M. Saleh Pandang	MORIF/ Maros	- do -	- do -	- do -
22.	Wafiah Akib	MORIF/ Maros	- do -	- do -	- do -
23.	Tambak Manurung	CIRIAS/ Bogor	- do -	- do -	- do -
24.	Didi Suardi	CRIFC/ Bogor	- do -	- do -	- do -
25.	Yono C. Rahardjo	CRIAS/ Bogor	- do -	- do -	- do -
26.	Budhoyo Sukotjo	Prog.and Proj.Form. Unit/ Jakarta	Agric. Research Management	Washington,D.C. and Hawaii, USA	June 6-12,1982 June 18-21,'82
27.	Tambunan S.M. Manungkol	BORIF/ Bogor	Estab.Data Bases&Analyt.Syst,for Econ.Decision making in Agric.	University of New Mexico	June 6-Aug.13,82
28.	Rachmat Kartapradja	LERIF/ Lembang	Veg.Crop.Prod.& Markt.	Rutgers Univ. USA	July 12-Aug.20,82
29.	Artaty Wijono	CRIFI/ Jakarta	Ag.Comm.& Med.Strategy	Iowa State Univ.USA	July 12-Aug.20,82
30.	Abisono	TARII/ Tg.Karang	- do -	- do -	- do -
31.	Adi Widjono	CRIFC/ Bogor	- do -	- do -	- do -
32.	T.H.Mangunsong	Reg.Ag.Quatant/Jkt	- do -	- do -	- do -
33.	Fathan Muhadjir	BORIFC/ Bogor	Wheat & Maize Phys.	CIMMYT,Mexico City	July 20-Aug.25,82

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No.	N A M E	EMPLOYING OFFICE	COURSE/OBJECTIVES	INSTITUTIONS/COUNTRY	DURATION
34.	Murlaila Hasbullah	BARIF/ Banjarmasin	Rice Production	IRRI, Philippines	July 1-Aug.27,82
35.	Nurul Aida	BARIF/ Banjarmasin	- do -	- do -	- do -
36.	Achmad Dimiyati	BORIF/ Bogor	Tech. & Econ.aspects of Soybean Production	Univ.Illinois,USA	May 10-Aug.6,1982
<u>TRAININGS OUTSIDE RMI</u>		<u>CONTRACT:</u>			
37.	Achmad Sarnita	RIIF/ Bogor	Study Milkfish Cultiv. Methods	SEAFDEC/Philippines Institute of Marine Biology and Galf Coastal Fisheries Center/USA	5 July-Aug.15,1981
38.	Hanih	- do -	- do -	- do -	- do -
39.	Suningrat	NLAS / Bogor	Regional Micrographic T. Course	SEARCA/Philippines	Jan.10-23, 1982
40.	Sumardj Dahlan	- do -	- do -	- do -	- do -
41.	Azis Arifin	LERIF/ Lembang	The Dicial Long of Cip. Comperative Study for Tuber Crops Research Comperative for wheat Research.	Peru CIAT/Columbia CIMMYT/Mexico	Feb.22-26, 1982 Feb.29-March 1,82 March 3-4,1982
42.	Surahmat Kusumo	CRIFC/ Bogor	- do -	- do -	- do -
43.	Sundaru	BORIF/ Bogor	Management Agric.Organ	USDA/USA	May 17-Jul.9,82

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