

PDAAS-330

AGENCY FOR
AGRICULTURAL RESEARCH AND DEVELOPMENT



Narrative Report
on the
Applied Agricultural Research Project

FOR THE
MONTH OF JANUARY 1983

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APPLIED AGRICULTURAL RESEARCH PROJECT
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NARRATIVE REPORT
ON THE
APPLIED AGRICULTURAL RESEARCH PROJECT
FOR
JANUARY 1983

I. INTRODUCTION

The major events in the month of January were the arrival of three new AARP/RMI specialists and their families and the attendance of the Chief-of-Party at AARD's Research Management Workshop in Bali. On January 4, the RMI Bogor office had a combined Christmas and New Year's party for our RMI staff, many friends from AARD, and friends from other organizations in Bogor and Jakarta. Everyone had a good time and felt it was an enjoyable way to launch our activities in 1983.

II. PERSONNEL

The long term AARP/RMI expatriate contingent of five specialists was augmented by the following persons during January:

1. Dr. Anwar Rizvi who has the position of plant pathologist at the Maros Research Institute for Food Crops (MORIF) arrived on January 4, and will work with our project for two years.

2. Dr. Fritz von Fleckenstein who is an agricultural economist and will be stationed for at least 33 months at MORIF arrived on January 27, 1983.
3. Dr. Kevitt Brown is assigned to the Banjarmasin Research Institute for Food Crops as a deep water rice breeder. He and his wife who is also a trained plant breeder arrived on January 31, 1983.

The next arrivals are:

1. Dr. Chhorn Lim, Milkfish Nutritionist, Research Institute for Inland Fisheries, March 1.
2. Ms. Greta Watson, Social Scientist/Agricultural Economist, BARIF, March 1.
3. Dr. John Bolton, Soils Scientist, BARIF, about March 15.
In addition we are still working on contractual arrangement for the following:
4. Ms. Diane Barrett, Tuber Crops Post Harvest Processing Specialist, with anticipated assignment beginning April 1.
5. Dr. Benjamin Gabrille, Entomologist, BARIF.
6. Dr. William Vanstone, Milkfish Breeder, Gondol (Bali) Sub-station for Research in Inland Fisheries.

III. Staff Activities

1. Dr. William L. Collier, Chief-of-party attended the AARD's workshop on Research Management in Bali from the 5th to the 12th. Since all of the Center and Institute Directors attended this meeting, it was an excellent opportunity for him to learn about all of AARD's Institutes and to become personally acquainted with these scientist/administrators. He gave a paper at this meeting on managing a foreign assistance project (Appendix I). After this meeting he travelled with several AARD staff to Malang to attend the "Intensive Agriculture and Sustainability Project" sponsored by AARD and Ford Foundation. Dr. Ibrahim Manwan was the Chairman of this meeting. He helped prepare a proposal on establishing a center of excellence for marine fisheries which was submitted to the Director General of AARD.

2. Carl R. Fritz, Administrative Specialist, drafted a proposal for English language training at Maros and Banjarmasin. After appropriate review, it will be submitted to the Project Leader and USAID for funding under the AARP loan. He worked with AARP officers in preparing the documentation required for participant training to begin in February and March.

After assisting in the orientation of Dr. Anwar Rizvi, Plant Pathologist, he accompanied the Rizvi family to Ujung Pandang and Maros. In order to assist in procurement he wrote to 25 US firms requesting additional catalogues for field and laboratory equipment pertinent to AARP requirements. Also he participated with Roland Harwood and Sjafril Lamsayun in a meeting with USAID officers to discuss equipment procurement procedures. A meeting with the USAID Regional Procurement Officer is planned for March. Besides these activities, he continued supervision of AARP/RMI administrative and financial matters. As of January 31, RMI expenditures under the AARP contract stood at \$415,295 of grant funds, \$264,500 of loan funds and Rp. 105,156,174.81 of counterpart rupiah funds. Our request for counterpart funds in the current quarter, January-March 1983, amounts to Rp 101 million, largely reflecting housing costs for incoming AARP/RMI specialists.

3. Roland E. Harwood, Research Station Development Specialist in January spent most of his time working with the three architectural firms contracted by AARP to design major buildings for Cimanggu (Bogor), Maros, and Banjarbaru. The plans for the lab-office building for Cimanggu should be finished in early February. The plans for Maros are completed except for the design of the water treatment plant.

The original design made for this plant had to be modified and help in designing this plant is being sought from several sources. The poor quality of water in the laboratories and houses at Maros is a long standing problem that must be resolved. The construction plans for Banjarbaru are behind schedule and every effort is being made to speed up this work. The two projects under construction at Cimanggu have had serious problems. The work done has not met minimum acceptable standards and much time and effort has gone into trying to correct this situation. Discussions were held with Mr. Terry Aggasid and Mr. Jack Trywick to plan future cooperation in setting up training courses in experiment station management. Meetings with USAID explained the rules and methods to be followed in the procurement of lab and field equipment.

4. James C. Myers, part time Training Coordinator, Jakarta, is now assisted by a travel agency representative who now has working space in the RMI office. This service is at no additional cost to the project.
5. Dr. Jerry McIntosh, IRRI Farming Systems Specialists: was primarily involved in the development of an "Upland

Rice Project Proposal" for collaborative AARD/IRRI research. He also participate in the Workshop on Intensive Agriculture and sustainability. During this month he finished updating his "Indonesian Farming Systems Research and Development" manuscript. For more detailed information, please refer to Appendix II.

6. Dr. Igmidio T. Corpuz, Soil Scientist at MORIF; continued to assist MORIF research officers in establishing and conducting experiments on fertilizer efficiency, soil fertility and organic materials described more fully in his monthly activity report found at Appendix III. At the invitation of an extension worker, conducted fertilizer application demonstrations in connection with the Armed Forces and the People program.
7. Dr. Anwar Rizvi, newly arrived Plant Pathologist at MORIF has met with the Director and various staff and taken a field trip to become acquainted with the organization and work program, and plans a full schedule of activity for February. His monthly activity report is in Appendix IV. He was able to visit field trials on the tungro virus at the Lanrang SubStation. He accompanied staff of MORIF and local extension agents to Cempa Desa where he was able to suggest method to reduce tungro virus infestation in their rice fields.

8. Dr. Fritz von Fleckenstein, agricultural economist at MORIF, visited Dr. Subiyanto at the centre Agricultural Data Processing to find out what type of micro computer they preferred to be installed at MORIF. It should be compatible with their large honeywell computer in Pasarminggu.
9. Dr. Kevitt Brown, deep water rice breeder at the Banjarmasin Research Institute for Food Crops (BARIF), visited the International Rice Research Institute on his way to Indonesia. He met the Director of BARIF at IRRI and discussed his future program and the possibility that his wife Sara who has an M.Sc. from Cornell in plant breeding join the BARIF staff.

IV. Training

No participant departures or returns were recorded during January. Four participants from the Lembang Research Institute for Food Crops (LERIF) will remain at the Asian Vegetable Research Center in Taiwan until May 1983. During February we expect Mrs. Ati Sri Duriati, LERIF Plant Virologist to begin three months of training at the American Type Culture Collection, Rockville, Maryland, in the Elisa technique for detecting viruses in potatoes.

During March two researchers from the Forest Products Research Institute of Bogor plan to begin one month training in research and industrial uses of the coconut trunk at the Forest Products Research and Development Institute at Los Banos, Philippines. For ready reference, details of AARP participant training to date are found at Appendix IV.

The project now has a list of 220 candidates proposed for training during 1983. The Project Leader, Mr. A. Abdullah, is expecting to form a selection committee to review this list, and Mr. Fritz, AARP/RMI Administrative Specialist, is expected to serve on the committee.

Most of this large list undoubtedly will not receive training under AARP during 1983. First of all, a number were nominated for programs beginning in January and February, so consideration of these will be in terms of 1984. Second, consistent with AARP objectives we should give priority to the strengthening of research capacity in the Outer Islands. Third, we must be assured that the training proposed is needed and most appropriate for the individual, the tasks to be performed and the particular AARP institution being strengthened. We must also take note of past training received. Finally, we must assure that candidates are able to absorb the training in the most likely language of instruction, English.

Experiences with the ALIGU test (American Language Institute Georgetown University) demonstrates that nominees from the Jakarta/Bogor area are much more prepared in English language than their colleagues in the higher priority areas. USAID is willing to conduct the test for AARP candidates twice yearly at Banjarmasin and Maros, and we are attempting to schedule such tests for February. For IRRI candidates, the test is not required if IRRI officers interview the candidates and make a judgement that the candidates can absorb the training to be given. We have been lenient in other cases also, particularly when several were to be trained in a group, and we expected the more fluent members to assist the others during training.

In any case, the conduct of an English language program for potential AARP participants in the Outer Islands appears critical. A proposal has been drafted, and we expect to submit it to the Project Leader for his consideration within the next few weeks.

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A P P E N D I X I

THE APPLIED AGRICULTURAL RESEARCH PROJECT:
FROM THE VIEW POINT OF THE TECHNICAL EXPERTS'
CHIEF-OF-PARTY

William L. Collier

Januari 5, 1983

Introduction

The purpose of this brief paper is to provide information to the participants of the "Simposium Pengelolaan Balai Penelitian (Symposium on Research Station Management)" on the experiences gained from being involved as Chief-of-Party of the Applied Agricultural Research Project. It may be useful for the various participants to learn about the experience of the foreign staff who are assigned to assist the research stations. To be useful this paper will first describe the history of the project, and then examine the various aspects of the project that are directly related to the research stations: Construction, Procurement, Technical Assistance, Short Term Training.

Background of the Project

In order to provide a picture of how a major, bilateral assistance project comes about, the various steps will be described below:

1. The USAID Jakarta staff prepared a Project Identification Document (PID) which was approved on June 29, 1978 by USAID Washington.

2. The Head of AARD addressed an official request to USAID/Indonesia dated 20 November 1978, for assistance in agricultural research on the island of Kalimantan, and USAID indicated its interest in providing such assistance. This request was amended in July 1979 to include Sulawesi, Maluku, and West Java and USAID again expressed interest.
3. A four man consulting team, under contract to MASI, was brought to Indonesia from 23 January to 9 March 1980 to assess and verify, or make recommendations, concerning the feasibility of the project. They submitted their report on April 4, 1980 entitled Review of the Proposed Applied Crop Research Project for Kalimantan, Sulawesi, and Maluku.
4. The project Paper (PP) was developed jointly by AARD and USAID in collaboration with responsible authorities and agencies at both the national and the provincial level. It was submitted to USAID in may 22, 1980 and approved by USAID Washington on September 17, 1980.
5. The planned cost of the project was agreed upon with the signing of Loan Agreement (497-T-064) on the 29th of September 1980 and the Grant Agreement on the 15th of December 1980.

6. As a guide for implementation of this project, the AARD in cooperation with USAID prepared a Detailed Implementation Plan Document on December 24, 1980.
7. BAPPENAS approved the Project Loan on December 23, 1980.
8. USAID then approved the use of the Loan and Grant funds in their letter dated January 15, 1981. Thus, the project could be initiated by using the Grant and Loan funds and using the requested rupiah funds included in the 1981/1982 DIP of the AARP.
9. To select a consulting firm which would manage the technical assistance on December 11, 1980 an advertisement for this purpose was placed in the Commerce Business Daily in New York with a time limit to submit the proposals by January 26, 1981. Responding to this advertisement, sixteen American consulting firms submitted proposals for participation in the project.
10. The Head of AARD formed a team for "Selection of the Consulting Firms" in his letter of April 20, 1981.
11. Of the 16 consulting firms, five firms were chosen (short-listed) for the next stage of the evaluation on February 24, 1981.

12. The five selected firms were requested to submit their Technical Proposal on May 15, 1981.
13. The AARP Evaluation Committee selected RMI for the technical assistance portion of the project on June 15, 1981.
14. Contract negotiations between AARP and RMI began in September 1981 and were completed and the contract was signed on March 12, 1982. The Chief of Party began work on March 22, 1982 and the Administrator Manager on April 1, 1982.

The main point of this list is the long period of time required just to prepare a project. Since the first step in early 1978 when the PID was prepared until the scheduled end of the project in September 1985, a period of eight years will have elapsed. Most of the decisions and estimates of the project costs were made in early 1980 yet the project is being implemented in late 1982, 1981, and 1984. The accuracy of the long range planning by each Balai to assist in preparation of the Project Paper in early 1980 in order to have a viable project in 1983 must be quite good, otherwise it will be very difficult in 1985 to have achieved the hoped for results.

Another aspect of the planning process for this type of the project are the many different approvals that are necessary. The Indonesian staff responsible for this project were required to spend an amazing amount of time in just getting the approvals.

Construction

The construction of 400 buildings makes up a major portion of this project. In judging the success of the AARP by the amount of budgeted funds expended, a delay in construction at any of the Balai means that the project is not being implemented. However, this is an unfair yardstick to judge the project because of the many factors not within the control of the managers that can slow down implementation. In the AARP land acquisition has been a major reason for delay. Once this is overcome, then there are delays caused by the architects, by the many changes in plans due to the staff and fund availability, by the tendering process, by the contractors.

Although it is not possible for the foreign experts to assist in the construction, indirectly these experts can provide suggestions on the design of the stations. Yet, in the case of the RMI/AARP Research Station Development Specialist he arrived almost too late to make an input into some of the designs.

One problem facing the Directors' of the Balai is that often they have been trained in research but upon return to their Balai they rapidly are appointed the Director. They do not have experience in designing a research station. In the U.S. a station director would achieve this position after 20 years as a researcher and five as an assistant administrator. Thus, the Directors need suggestions on various alternative designs, plans, etc from some one who has spent many years being a farm station manager. Another skill not usually taught in an academic environment, is knowledge of construction. Many of us cannot tell if a foundation is being put in properly, or the plans being followed as to the specifications. Yet, it is extremely important to be able to convince the building contractor that the Director knows enough to detect any deviance from the plans. These problems can cause delays in the construction and thus delays in implementing the project.

It would seem that the greatest delay during the design stage is the many changes in the design of the station and buildings. In one of the Balai's in the AAFP there were at least eleven different designs, each requiring new plans from the architect. Another major delay is the budget. When the amount for a station is reduced it takes time to redesign the stations.

Also, since the cost estimates were made in 1979 or 1980 there have been major increases in construction costs that greatly affect the plans, especially if the budget has been cut.

The foreign experts can give advise when asked on the design but have no role in the actual implementation.

Procurement

In the AARP the foreign experts can have somewhat more influence in the procurement program. At the various Balai there is not sufficient information available on the specifications for the equipment which will be purchased in the U.S. The experts can provide information on equipment which can be then included in the Balai's request. Once the requests have been approved, it is important to consider contracting for a procurement agent from the U.S. who understands both Indonesian and U.S. regulations. The problem is that often these regulations are not compatible and it takes much ingenuity to figure out how to obey all of the regulations.

One problem in procurement is planning. The Director has to be sure that the laboratory building will be finished before the arrival of the equipment. Yet, a long delay in arrival will seriously impede his research program.

In the AARP the procurement is, of course, not as far along as the construction program. Yet, one has the feeling that it must be accelerated if the equipment arrives in time. Most of us do not realize that it will take a year or longer once the order is made before the equipment arrives. It is extremely important to have a detailed implementation plan that is up dated frequently so that the equipment arrival can be planned to coincide with the completion of the buildings.

The procurement of the field equipment is not as sensitive to planning, since tractors, trucks, implements can be used even if the buildings are not completed. Thus, it is important to make a number of orders throughout the period rather than wait for one large procurement order. It may be that a Balai Director should place his procurement orders every four months over the period of the project rather than assume that it all has to be in one big order. Once he has selected his equipment, it is then relatively easy for an expert to search through catalogs to develop the correct specifications and initiate the order.

Short Term Training

The major constraints in the short term training program are information on available programs, and scarcity of AARD staff who have a sufficient level of English to pass the ALIGU test.

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The role of the experts may be more important in training since it is managed by one of the experts once the person receiving training has been selected. Then, the arrangements can be made by the foreign expert assigned this task.

However, in the AARP the objective is to assist primarily Balais in Kalimantan, Sulawesi, Bali, NTT, and Maluku. Yet, these are the stations with younger staff who have had less training in English. It is quite difficult to determine who should receive what type of training, when, and in what sequence. A plan would begin with a program of in-country training, language training, short term training abroad, and then long term academic training for those who have proven their ability to handle M.Sc. and Ph.D programs. This is a training cycle that may take as long as 10 years and will require substantial planning by the Balai Director for each of his research staff.

One problem facing the Director is that if he sends a substantial number of his best staff abroad or to Indonesian Universities, then he finds it extremely difficult to maintain his research program without his key staff members. Once again long term planning is essential.

Another problem is that the Director and his research staff are not always aware of the training possibilities. The experts can provide much needed information on training so that the

Director can make informed decisions on training.

A problem for implementing the training is that it takes several months to make all of the arrangements, and get the necessary Indonesian Government approvals. Any staff member should plan at least six months in advance for the short term training he is applying for which must be through the AARD Channels.

Technical Assistance

Obviously, this is where the foreign experts have the greatest impact. Yet, the chances for success or failure are very high. It takes a particular type of expert who will be willing to subordinate his desires for a leading role to that of assisting and training the younger staff members in research. It is very clear that AARD does not want foreign experts making decisions on the Balai's research program. AARD wants experts who will transfer technology. Yet, those experts who are the most highly trained are also the ones who will have difficulty when not leading a research program. Their personality must be such that they can remain in the background, assisting the Indonesian researchers. This type of person is usually some one who is nearing retirement in a U.S. University or a young scholar who will feel that he is a colleague of the Indonesian researcher and thus play a secondary role in research and publications.

The Balai Directors must consider a number of factors when they select a candidate for a technical assistance position. If he is a well know researcher, will he able to fit into a program where he is in a subordinant role?. If he is middle aged, is there an international school available for his children. Most U.S. researchers find it very difficult to leave their children in the U.S. or put them in a boarding school. Yet, Balai Directors prefer well-known, middle-aged researchers for these positions. Yet, these are the most difficult to find because of their great reluctance to leave good positions in the U.S. Thus, the contractor usually must relie on the floating-mass of either young Ph.D.'s or almost retired Professors, or those Researchers who have choosen to spend their lives in foreign consulting work. These three groups do not always fit the specifications of the Balai Director.

Young Ph.D's who have not yet obtained a permanent job in the U.S are one source of candidates. They are usually energetic, willing to live in rather difficult environments, and to learn the local language. However, they will never be able to get a job in a U.S. University or research institution. It creates pressures on both the foreign expert and the Director in this situation.

The almost retired or retired professional may have substantial experience and no need to publish, yet they often find it difficult to adjust to a new environment, to learn a foreign language, and their wives may be frustrated by a lack of stimulating activities to keep their minds on other things than what is missing in their new environment.

The Balai Director needs to carefully scrutinize the experts who have chosen to remain abroad permanently as consultants. Have they made this decision out of a genuine desire to live in Asia or are they incapable of finding work in their own country and thus forced to work abroad?

In the selection of foreign experts, the Director and the Consulting firm need to have close communications in selecting candidates for these long-term expert positions.

Problems will arise while they are at the Balai but if a good rapport is established between the Director and the foreign expert, then he should be able to make a useful contribution. However, both will have to work at achieving this rapport.

Once the Balai Director and the Center Director have approved a foreign expert, there still may be delays. The process of selection and approval takes from two to six months. Often, a foreign expert will not wait this long for confirmation, thus will be looking for other job opportunity, and may not be

available by the time all of the approvals have been obtained. A Balai Director has to be prepared to go through this process several times before hiring a foreign expert for a technical assistance position. The contracting firm (i.e. RMI) cannot promise a job to an expert until all the approvals have been obtained. This is even more true for those candidates in the contracting firms original project proposal. Neither the firm nor the expert makes a promise of employment when the experts name is included in the proposal. Rather, it is an expression of availability that will eventually depend on what has occurred between preparing the project proposal and implementing the project which may be a gap of two years.

COOPERATIVE CRIFC-IRRI PROGRAM
THE INTERNATIONAL RICE RESEARCH INSTITUTE

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February 1, 1983

To : Dr. J. Ritchie Cowan
IRRI Liaison Scientist

From : Jerry L. McIntosh 
Farming Systems Liaison Scientist

Subject : Monthly Report -- January 1983

I. Principal Accomplishments and Activities

- A. Participation in development of an Upland Rice Project Proposal for Collaborative AARD/IRRI Research, January 3-8, 1983. Three areas of research will receive special emphasis:

1. Blast Management and Control
2. Soils and Climate in Upland Rice Production
3. Cropping Systems and Upland Rice

- B. Participation in Workshop on stability and sustainability of farming systems for three different land conditions:

1. Tidally affected areas
2. Alang-alang infested lands
3. Critical land areas

This workshop was sponsored by the Ford Foundation, USAID and AARD. Tentative project proposals were developed for consideration among the collaborative groups -- AARD, IPB and Gadjah Mada University.

- C. Finished updating "Indonesian Farming Systems Research and Development" Manuscript. Hopefully this document can be published in Indonesia in the completed form. Most of the early sections have been reported in various forms and publications but not together. Michigan State University wishes to publish this paper in their Farming Systems Publication Series. Draft Copy accompanies this report.

- D. Continued collaborative planning and monitoring of farming systems and rice related research with Indonesian colleagues and editing of papers for conferences.

II. Miscellaneous Activities

- A. Soybean production planning meetings. This group meets once a week to develop a research program to increase soybean production through appropriate breeding, management and research implementation strategies.

- B. Position papers on:

1. Brown Plant Hopper management strategies
2. Status of technology for upland agriculture.

- C. Consultations

- Dr. Joel Levine -- RMI, Farming Systems in Transmigration areas
- Mr. Athal Kilgore - P³DAS and others, Agro Business
- Dr. Chris Parker -- ADB Team on Integrated Pest Management
- Dr. John Terry -- BIOTROP

- D. Seminar and meetings

- Review of Brown Plant Hopper - Dr. I.N. Oka
- Benchmark Soils Project Review - CSR

- E. IRRI Liaison Activities

III. Constraints to Program

- A. Time and funds to follow onsite research
- B. Direct counterpart for Farming Systems Research

IV. Plans

- A. Participate in INSFFER Monitoring Tour, Feb.14-24, 1983.
- B. Prepare for AARD/IRRI Collaborative Meeting.
- C. Provide technical support to research colleagues.

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Appendix III

Report of Activities for
January, 1983

Igmidio T. Corpuz / *Igmidio T. Corpuz*

I. Activities

A. Worked with Ir. Agustina Buntan, In-charge INSFFER Project in establishing the following experiments :

1. "Nitrogen Fertilizer Efficiency on Rainfed Wetland Rice" at Tambua, Marannu, Maros.

In setting up the experiment there was the opportunity to impress on her the importance of levelling the soil in all plots before planting. It was especially necessary because soil used for building the bunds were mainly taken inside the plots from an area adjacent to the bunds.

At the time urea supergranule was applied (Jan 24) seven days after planting (Jan 17) there was the opportunity to determine how long it took to apply the fertilizer which was done by placing the material at the center of every other four hills to a depth of 10 - 12 cm.

In a plot 4m x 4m and a distance of planting of 20cm x 20cm, there are 100 sites or locations where the urea supergranules were placed by hand. Three people applied the fertilizer, a laborer, Ir. Buntan and myself.

It took the laborer an average of 4 minutes to complete the application per plot ; Ir. Buntan took her 10 minutes and it took me 8 minutes.

Casually I observed the laborer how he applied the material. I made it a point that he did not know I was observing him. He exerted no effort in placing the fertilizer to the desired depth of 10 - 12 cm. He was not concern on the purpose of the experiment. This is the basic ^{reason} why he could fertilize two plots for every plot I could fertilize. Taking the average of 10 and 8 minutes which is 9 minutes it will require 11 men to properly place the urea supergranule to a depth of 10 - 12 cm in one hectare for an 8-hour day work. At Rp.1000/man/day the amount of Rp.11,000 is needed to pay for applying the urea supergranule in one hectare. This means that the use of urea supergranule should bring about an increase of 110 kg/ha to pay for the cost of applying the fertilizer assuming that a kg of rough rice costs Rp.100.

With my actual experience of applying the urea supergranule I could feel it will be difficult to encourage farmers to use the urea supergranule. Placing the urea supergranule at the center of every other 4 hills to a depth of 10 - 12 cm is very much more difficult than merely hand broadcasting the ordinary prilled urea.

2. "Nitrogen - Fertilizer Efficiency on Irrigated Wetland Rice" at Maros Experimental Farm.

The experiment is practically the same as No.1 except that water will not be a limiting factor. A similar observation on the length of time spent in applying urea supergranule was noted. There was however the need to emphasize to follow all the steps called for in the experiments like mixing the fertilizers (Sulfur coated urea and basal application of prilled urea) with the mud to a depth of 10 cm because similar trial is carried out in 15 other countries.

3. Long Term Soil Fertility Maros Experimental Farm.

Since the plots are already well established the problem of uneven soil surface, is not serious. There was the need to point out the need to close the drainage outlet at the time of fertilizer application. They had started applying fertilizer even when water was getting out from the plot.

Certainly some of the dissolved fertilizer materials will be carried away from the plot by the free flowing water. Likewise there was the need to emphasize the need to follow all steps like mixing the fertilizer with the mud to a depth of 10cm because similar trial is carried out in 15 other countries.

4. Helped Ir. Agustina Buntan in writing two papers that will be presented in the INSFFER Site Visit Tour at Maros on February 21, 1983.

B. Worked with Ir. Reginald Le Cerff, In-charge of Fertilizer - Cropping System Project in cooperation with IBDC in establishing the following experiments

1. Controlled release nitrogen fertilizer (SCU) in upland cropping patterns, UNHAS Research Farm.

The cropping pattern followed in the experiment consist of corn inter-cropped with upland rice ^{and} one month before harvesting corn cassava will be planted between corn plants in the row and peanut will be planted after harvesting rice. The experiment which is a 5-year experiment was established at the upland research farm of Hasanuddin University.

There was initially a problem of hiring labor in the area. People don't want to work because I was told in the past they were hired but were not paid. When one was paid in advance however there were many who insisted that they should also work.

Because similar experiment is being established in several agricultural research stations in Indonesia it was necessary to emphasize that the different steps called for should be followed like drilling the fertilizer in the rows and covering the fertilizers. In hand drilling the fertilizers in the rows not all fell in the rows. Some fell on the ridge. There was the need to demonstrate the proper way of covering the fertilizers so that those that fell on the ridge will finally be placed in the row.

One particular operation that had to be solved in the site was the determination of the amount of sulfur coated urea (SCU) needed per plot. The material was weighed earlier but enough only for one replication. Nothing for the two other replications. There was no balance available in the site. The fertilizer had to be applied. The required amount per treatment in all the replications was finally determined volumetrically.

Because the land has a slope of about 5% there was the need to dig drainage canals around each replication and ridges between plots to prevent surface water in flowing from plots to plots.

There was a need to go back to the site to make a detailed characterization of the area including soil profile description and soil horizon sampling.

2. Long Term Experiment on organic materials at Maros Experimental Farm.

One of the treatments calls for the application of azolla. For the present crop (1983 WS) azolla can not be applied because it is not available. To be sure there is supply of azolla every cropping there is the need to construct an azolla culture pond. Another alternative which was suggested is the use of green leaves from leguminous trees like Leucaena or Gliricidia which are abundant in the area. The decision made was for the Soil Department to construct azolla culture pond.

C. Helped Ir. Christine J.S Momuat in writing a paper that will be presented in INSFFER Site Visit Tour at Maros on February 21, 1983.

D. With the invitation of an agricultural extension service worker I went to the Komplek Kopassandha at Kariango, Mandai, Maros with the RMI Secretary to demonstrate how to apply in the field a given fertilizer recommendation involving rate and method of application. This is in connection with the ABRI DAN RAKYAT Program.

Earlier soil sample were collected in the area and were analyzed at the Soil Chemical Testing Laboratory Soil Department, MORIF. From the results of the analysis a fertilizer recommendation was formulated.

II. Travels made.

No travel away from the station was made in January because of limited travel fund.

II. Plans for February, 1983

1. Work very closely with the Committee responsible for the preparation of the INSFFER Site Visit Tour at Maros on February 21, 1983.
2. Participate in the generation of data from the already established experiments.
3. There will be a need to travel to Sinjai and Kendari together with Ir.Reginald Le Cerff to set up experiments in connection with the Fertilizer Cropping System Project.
4. Write a paper on correcting Yield Damage by Animals to be presented during the INSFFER Site Visit Tour at Maros on February 21, 1983.
5. To participate in a workshop related to the INSFFER Program at Jakarta on February 23 and 24, 1983

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TRIP REPORT

Official trip to Sub-Station at Lanrang,
Agricultural Extension office in Pinrang and
rice fields in Desa Cempa on January 24 to 25, 1983.

This trip was made together with Ir. Syaharuddin Rahamma of Plant Pathology Department, MORIF. Originally trip was planned to visit ongoing research projects and rice tungro virus (RTV) nursery at Lanrang sub-station with the purpose to acquaint myself with the station's staff, facilities and research activities for a possible future collaboration in areas of mutual interest. Later, on the request of Ir. Shagir Sama, Head of Entomology Department, MORIF, a visit to Agricultural Extension office in Pinrang and rice fields in Desa Cempa was included in the trip.

First we visited Agricultural Extension office at Pinrang and met with Ir. Rasid Djumadi, Head of Extension Services. He mentioned that RTV is becoming a serious problem with some varieties of rice in certain areas around Pinrang and would like us to visit one of these areas in Desa Cempa and suggest some possible solutions to the problem.

One of his staff, Mr. Rasid of Plant Protection sub-division accompanied us to rice fields in Desa Cempa. Crop was at flowering stage. Three varieties IR-42, IR-50 and IR-54 were grown in 25 hectares. RTV was present in IR-42 and IR-54 fields but IR-50 was without RTV.

The pattern of RTV spread indicated that in some areas infection was already present in the field and act as a source of inoculum for plant grown around such areas and caused infection in them. Whereas, other areas indicated that the source of infection came from outside the field and RTV was first time introduced in such areas of the field by its vector like green leafhopper (GLH) Nephotettix virescens. During the discussions, it was brought to my attention that farmers in the area leave the rice stubbles in the field after harvest. Later, stubbles of RTV infected plants will act as source of infection in the field during next season while supporting vector populations at the same time. No effort was being made to pull out and destroy RTV infected plants during the growing season either.

Following suggestions were made to the accompanied extension officer and farmers to reduce RTV infection in rice fields:

1. Pullout and bury all the RTV infected plants throughout the growing season. Periodic inspections of rice fields should be conducted for this purpose to reduce infection level in the fields.
2. At time of harvest, it must be made sure that at least stubbles of all RTV infected plants are removed from the field and buried.

3. All weed plants growth should be checked to eliminate alternate sources for RTV, food and shelter sites for RTV vector.
4. Monitor vector populations in fields and make necessary insecticide applications to reduce the spread of RTV.
5. Use of rice varieties resistant to RTV to avoid economic losses due to virus infection and high cost (and non-availability) of insecticides necessary to control the vector.
6. Sowing and harvesting dates could be modified to adjust with the population dynamics of vector to reduce RTV infection.

A demonstration experiment was recommended in the light of above suggestions to show to the farmers the effect of these suggestions on the spread of RTV in the area. A follow up trip was planned.

After completing our trip in Pinrang and desa Cempa, we went on to Lanrang and met with Ir. Koesnang, Head of the Lanrang sub-station. Ir. Koesnang various on-going field experiments at his station. During our visit to the fields we noticed that in some experiments rice plants have an uneven height which was due to the attack of rice stem borer at the early stages of rice plant growth. We were told that if proper control measures are not taken then the rats and weeds could also become a serious problem.

Field experiments were properly labeled, designed and kept. I very much enjoyed my visit to Lanrang sub-station and look forward for a closer collaborative research on RTV in the future.

I visited the fields where rice tungro virus nursery (RTV) evaluation will take place during 1983. Susceptible control plants of cv. TN-1 were already planted for the development of natural RTV infection in them. RTV infected plants will later be used as source of inoculum in RTV nursery testing. Necessary preparations, according to a pre-planned schedule, were going on to have fields ready to plant RTV nursery in February 1983.

Ir. Koesnang explained me the experimental design and field layout for 1983 RTV nursery experiment. It seems to be a well thought and well planned design for field testing of rice lines for their resistance to RTV. Lay-out design was based on the recommendations of IRRI scientists to conduct such experiments.

However, in the future, I would like to test certain modifications of the present design to see if we can further improve the test's reliability, efficiency and reduce the time required to perform the RTV nursery test. I plan to discuss my ideas with Dr. Farid Bahar, Director of MORIF, on this return from abroad and would like to seek his opinion and approval on my thoughts before evaluating the prospective modifications.

To become fully acquainted, I would like to obtain more information on the RTV nursery experiment, therefore, frequent visits to Lanrang were planned to observe and assist during 1983 RTV nursery testing period.

Appendix IV
January 1983 Monthly Activity Report
Anwar H. Rizvi

1. I met with Mr. Hasanuddin, Head of plant pathology at Maros and visited his green and screenhouses. Also discussed with him about the general problems of plant diseases in the area. Took a tour of plant pathology laboratories and other departmental facilities.
2. Hold a meeting with Dr. Farid Bahar, Director of Maros Research Institute for Food Crops who gave an overview of Institute's activities, its various departments, staff and sub-stations etc. Later, another meeting was held with Mr. Hasanuddin and his staff, whoever was present, to become acquainted with them and their specific responsibilities in various areas of plant pathology.
3. A meeting was held with Ir. Shagir Sama, Head of Entomology Department at Maros, to get an idea on the major and minor insects pests of various crops grown in the area. He showed me his screen and greenhouses and the research work in progress. Later, a visit was made to the experimental fields around the Institute and various on going experiments of different departments were observed. This was a very useful trip for my orientation with the Institute.
4. Travels made: On January 24 to 25 to the Institute's sub-station at Lanrang Agricultural Extension Office in Pinrang and rice fields in Desa Cempa (Report of Trip Appendix).
5. Plans for February: Assist and observe setting up of rice tungro virus (RTV) nursery trials at Lanrang Sub-station.

Visit to Sub-Station Bantaeng to see horticultural crops and diseases present in the area. To meet farmers and discuss their problems and to see how Institute can provide necessary help to solve such problems.

Visit to the University of Hasanuddin to meet Dean, Faculty of Agriculture and Heads of Plant Pathology and Entomology Department and to become acquainted with their activities for possible future colaboration on topics of mutual interest such as training of national research workers, seminars, lectures etc.

Initiate development of necessary activities as I will become more acquainted with the problems and start searching their solutions.

Start establishing contacts with other research organizations/institutes involved in similar activities as we will be at Maros.

Assist staff in setting up of their experiments and writing up of reports.

LIST OF AARP/RMI PARTICIPANTS AS OF JANUARY 31, 1983

No.	N A M E	EMPLOYING OFFICE	COURSE/OBJECTIVES	INSTITUTIONS/COUNTRY	DURATION
<u>CONTINUING IN TRAINING:</u>					
1.	Nani Sumarni, Miss	LERIF/ Lembang	Interdisciplinary re- search in Plant Breed- ing	Asian Vegetable Res. & Dev. Center, Taiwan	Nov.07-May.07,83
2.	Etti Purwati, Miss	- do -	- do -	- do -	- do -
3.	Yoyo Sulyo	- do -	- do -	- do -	- do -
4.	R.E.Soeriaatmadja	- do -	- do -	- do -	- do -
<u>RETURNEES:</u>					
5.	Mas Ismunadji	BORIF/ Bogor	Spec.Trng. in upland crops physiology	- do -	Nov.01-Dec.01,82
6.	Mohamad Sirdan	CARP/ Jakarta	Project Preparation & Evaluation in Ag. and Rural Development	Statistical, Economic & Social Research & Trg.Center for Isla- mic Countries, Turkey	Oct.18-Nov.12,82
7.	Syafril Lamsayun	CARP/ Jakarta	Procurement Training	TransCentury Corp.USA	Oct.15-Nov.14,82
8.	A.M.Laponangl	MORIF/ Maros	- do -	- do -	- do -
9.	Abdussamad Syahrani	BARIF/Banjarmasin	- do -	- do -	- do -
10.	Warsito Hutomo	C A Q / Jakarta	Agric.Proj.Planning & Analysis Section II	USDA, Wash.D.C.	Sept.7-Nov.11,82
11.	Mohamad Mansur	CRIC/ Bogor	- do -	- do -	- do -
12.	Hafni Zahara Syukri	CARP / Jakarta	- do -	- do -	- do -
13.	Wahyadl Sosrowardoyo	CRIFI/ Jakarta	Applic.and Diffusion of Agric.Res.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
14.	Sofyan Ilyas	RIFT/ Jakarta	Determination & Prevention of Postharvest Food Losses	Cornell Univ. USA	Sept.6-Oct.13,82
15.	Achmad Hidayat	CAQ/ Jakarta	Plant Quarantine	USDA,Wash. D.C.	Jul.19-Sept.17,82
16.	Dewa M. Tantera	BORIF/ Bogor	Integrated Pest.Mgmt.	Purdue Univ.USA	June 9-Jul23,82
17.	Sudiarto	CRIIC/ Bogor	Agric.Research Method.	Kansas State Univ.USA	May 31-Jul.23,82
18.	Lalu Sukarno	BORIF/ Bogor	- do -	- do -	- do -
19.	Siti Sufiani	MORIF/ Maros	- do -	- do -	- do -
20.	M. Saleh Pandang	MORIF/ Maros	- do -	- do -	- do -
21.	Wafiah Akib	MORIF/ Maros	- do -	- do -	- do -
22.	Tambak Manurung	CIRIAS/ Bogor	- do -	- do -	- do -
23.	Didi Suardi	CRIFC/ Bogor	- do -	- do -	- do -
24.	Yono C. Rahardjo	CRIAS/ Bogor	- do -	- do -	- do -
25.	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
26.	Tambunan S.M. Manungkol	BORIF/ Bogor	Estab.Data Bases&Analyt.Syst,fir Econ.Decision making in Agric.	University of New Mexico	June 6-Aug.13,82
27.	Rachmat Kartapradja	LERIF/ Lembang	Veg.Crop.Prod.& Markt.	Rutgers Univ. USA	July 12-Aug.20,82
28.	Artaty Wijono	CRIFI/ Jakarta	Ag.Comm.& Med.Strategy	Iowa State Univ.USA	July 12-Aug.20,82
29.	Abisono	TARII/ Tg.Karang	- do -	- do -	- do -
30.	Adi Widjono	CRIFC/ Bogor	- do -	- do -	- do -
31.	T.H.Mangunsong	Reg.Ag.Quatant/Jkt	- do -	- do -	- do -
32.	Fathan Muhadjir	BORIFC/ Bogor	Wheat & Maize Phys.	CIMMYT,Mexico City	July 20-Aug.25,82

No.	N A M E	EMPLOYING OFFICE	COURSE/OBJECTIVES	INSTITUTIONS/COUNTRY	DURATION
33.	Nurlaila Hasbullah	BARIF/ Banjarmasin	Rice Production	IRRI, Philippines	July 1-Aug.27,82
34.	Nurul Aida	BARIF/ Banjarmasin	- do -	- do -	- do -
35.	Achmad Dimyati	BORIF/ Bogor	Tech. & Econ.aspects of Soybean Production	Univ.Illinois,USA	May 10-Aug.6,1982
<u>TRAINING OUTSIDE RI:1 CONTRACT:</u>					
36.	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
37.	Haniah	- do -	- do -	- do -	- do -
38.	Suningrat	NLAS / Bogor	Regional Micrographic T. Course	SEARCA/Philippines	Jan.10-23, 1982
39.	Sumardi Dahlan	- do -	- do -	- do -	- do -
40.	Azis Arifin	LERIF/ Lembang	The Dicimal 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
41.	Surahmat Kusumo	CRIFC/ Bogor	- do -	- do -	- do -
42.	Sundaru	BORIF/ Bogor	Management Agric.Organ	USDA/USA	May 17-Jul.9,82