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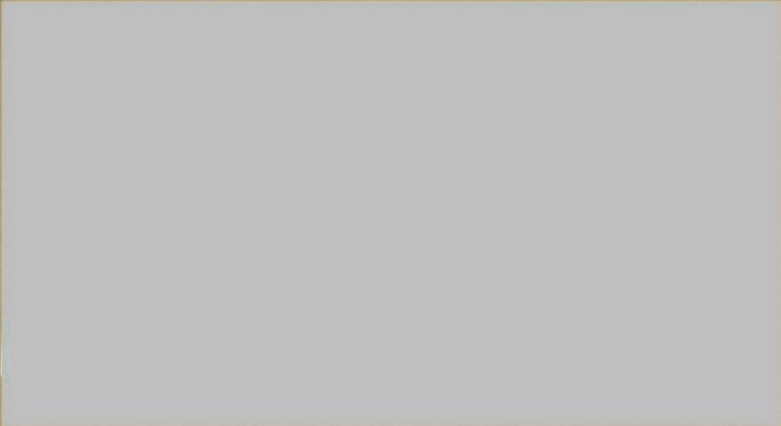
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G - 11

WARDA

1972/74

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**WEST AFRICA RICE**

**DEVELOPMENT ASSOCIATION**

**COORDINATED TRIALS:**

**Proposed**

**1975 budget**

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RIVER NIGER COMMISSION	
CONSEIL DE L'ENTENTE	
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April 1974 Session

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Project Coordinator  
All India Coordinated Rice Improvement Project (AICRIP)  
India

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Directeur technique  
IRAT  
France

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Délégué Général à la recherche scientifique et technique  
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Deputy Executive Secretary

Mr. Omer Koffi  
Soils and Fertilizer Trials Coordinator

Mr. Francois Faye  
Variety Improvement Coordinator

Conference Secretariat

Mme. Jo Chevassus  
Interpreter

Mme. T. Gaillard  
Interpreter

Miss B. Jagne  
Bilingual Secretary

Mrs. B. Phillips  
Secretary



STAFF LIST

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Mr. J. Osguthorpe	Project Coordinator (USAID)
Miss B. Jagne	Bilingual Secretary
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Research Department

Mr. Omer Koffi	Soils and Fertilizer Trials Coordinator (CGIAR)
Mr. Francois Faye	Variety Improvement Coordinator (CGIAR)
Dr. A. Vogel	Entomologist at Rokupr (USAID)

Development Department

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Mr. C.E. Tagoe	Production Agronomist
Mr. O. Wild	Economist (FAO/UNDP)
Mr. J. Vianen	Associate Economist (FAO/Netherlands)
Mr. W.K. Bach	Land and Water Management Engineer (USAID)
Mr. Delcasso	Seed Specialist at Richard Toll (France)
Dr. R.E. Parker	Rice Processing and Storage Engineer (USAID)
Mr. H.P. Rozeboom	Associate Rice Processing and Storage Engineer (FAO/Netherlands)

Documentation, Translation, Editing & Data Processing Division

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Mr. P. Gérard	Data Processing Specialist (FAO/UNDP)
Mr. W. Sachers	Data Processing Associate (West Germany)
Mr. B. Guindo	Indexer
Mr. E. Neblett	Technical Photographer (FAO/UNDP)

...../

Administration and Finance Division

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Mr. A.B. Naah	Personnel Officer
Mr. J. Sawyerr	Procurement Officer
Miss A. Borghi	Bilingual Secretary (FAO/UNDP)
Mr. Charles Kumodzi	Administrative Assistant

SUMMARY OF BUDGET

We submit herewith the 1975 budget for the WARDA Coordinated Trials - Project W1. Project W1 is part of the overall research activities of WARDA and it is being financed by the Consultative Group on International Agricultural Research (CGIAR). The other research projects are being implemented, but financed in part by WARDA member countries and in part with grants obtained from bilateral sources.

The 1975 budget shows an increase of about 26% over the 1974 budget. This is mainly explained by the fact that most of the staff were not at post for the entire year and the operations of the Seed Storage Centre at Monrovia and the utilisation of the glasshouses at the Regional Plant Quarantine station, Ibadan began around mid-year. In 1975 however, all staff will be on duty, the infrastructures will be fully utilised and all operations will be in full swing from January to December. In addition, an additional fourth glasshouse is to be built, the trial points are to increase from 29 in 1974 to 35 in 1975 and the trials will also increase from 225 to 275. Moreover, a 10% provision has been made in the budget to cover currency inflation and increased costs of goods and services.

This budget was earlier unanimously approved by the Steering Committee for the Coordinated Trials set up at the instance of the CGIAR at its first meeting in Dakar, Senegal on April 2, 1974.



GENERAL INTRODUCTION

The West Africa Rice Development Association (WARDA) is an inter-governmental regional organisation with the primary aim of making West Africa self-sufficient in rice. Its members are: Dahomey, Gambia, Ghana, Ivory Coast, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo and Upper Volta. The Constitution of the Association was adopted in Dakar, Senegal in 1970, but the Association started to function at its headquarters in Monrovia, Liberia on 1 December, 1971.

The policy making body of the Association is the Governing Council made up of one representative from each Member State. The Association has two committees, the Scientific and Technical Committee which reviews its work program, and the Advisory Committee which studies the financial and programming aspects of the projects. The Council and its Committees meet at least once a year, normally between October and December.

The member countries contribute the administrative budget of WARDA, while the cooperating countries and organisations, namely France, The Netherlands, United Kingdom, United States (USAID), Canada, Belgium, Ford Foundation, UNDP and the Consultative Group on International Agricultural Research (CGIAR) finance the research and development projects.

The headquarters of WARDA is located at the E.J. Roye Memorial Building in Monrovia, Liberia. It is made up of the Executive Secretariat, a Research Department made up of the Coordinated Trials (Project W1) and the Special Research Projects (W2, W3 and W4); a Development Department with three divisions: Project Design, Project Quantification and Loans Management; an Administrative and Finance Division; and the Documentation, Translation, Editing and Data Processing Division. All the activities of the Association are coordinated by the Executive Secretary assisted by the Deputy Executive Secretary and the other members of staff. The Secretariat has enjoyed close cooperation and support of the FAO which was instrumental in preparing the initial studies for formulating WARDA

INTERNATIONAL COOPERATION

Research and Development projects. It has also enlisted the cooperation of IITA, IRAT, IRRI, AICRIP, OAU/STRC and ECA.

A special committee called the Steering Committee was set up at the instance of the CGIAR to ensure efficient management of WARDA's Coordinated Trials - Project W1. It's membership comprises IRAT, IRRI, IITA, FAO, WARDA, three scientists from member states and an independent scientist.



### RESEARCH PROGRAMME

Two types of research are undertaken by the Association. They are:

- a. Coordinated Trials at a network of locations in West Africa with the aim of establishing a direct impact on rice development in the region (Project W1).
- b. Special Research Projects to reinforce existing research activities and for filling gaps in rice research in the member countries. This is back-stopped by available knowledge and experience at the international level (Projects W2, W3 and W4).

#### Research Coordination

The Research Department is headed by a Research Coordinator who is assisted by the Coordinators for Variety Improvement and Soils and Fertilizer Use and an Agronomist/Statistician.

The Coordinating centre for WARDA's research activities is at its headquarters in Monrovia. Effective linkages with the International Institutes, a strong coordination of on-going research at the National Research Centres of member countries and a large number of well designed coordinated trials are of paramount importance for increasing rice production in West Africa. In this respect, it should be realized that many research stations in the region are poorly staffed and equipped, and that national boundaries quite often limit the free flow of information, experience, experimental results and breeding material. It is WARDA's task to overcome these hurdles and to make maximum use of existing manpower and facilities in the region. The planning of assistance in staff, equipment and facilities with regards to the existing organisations in the region has been done in such a way as to avoid duplication of effort with maximum returns. As such, maximum use will be made of the infrastructure available at certain major centres like IITA, Bouaké (Ivory Coast), Richard Toll (Senegal), Mopti (Mali) and Rokupr (Sierra Leone) and

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of an organization like IRAT. In this respect, it should be noted that IRAT has contracts with many francophone countries of West Africa for assistance in carrying out research at their national centres.

To tap all available research findings in the region, seminars on specific topics are regularly organised by WARDA. These are usually attended by rice scientists from the International Institutes and the National Research Centres in the region. In the first half of 1973, three seminars on Rice breeding and varietal improvement, Soil fertility and fertilizer use and plant protection for the rice crop were held in Monrovia, Liberia to pool information on rice research in West Africa, draw up plans for the coordinated trials (W1) and further improve on the WARDA special research projects (W2, W3 and W4). The seminars were well attended by scientists from IRAT, IITA, IRRI, FAO, UNDP, ECA, OAU/STRC, the Quelea Project in Chad, all member countries and Upper Volta. The USAID, The Netherlands, France, United Kingdom also sent representatives.

A special committee called the Steering Committee has been set up at the instance of the CGIAR to ensure the efficient management of WARDA's Coordinated Trials (Project W1). Its members, drawn from IRAT, IRRI, IITA, FAO, WARDA, three scientists from member states and an independent scientist, held their first meeting from April 1-3, 1974 at Dakar, Senegal. The Committee at its first meeting highlighted the following and recommended:

- (i) the extension of the trials from stations to farmers fields and a comparative study of the results obtained from the two groups of sites.
- (ii) The provision of packaged inputs for the trials.
- (iii) Better training of field assistants and their supervision in order to improve local research capability.

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- (iv) Attention to maximising the efficiency of input in view of their increasing costs.
- (v) The results of these trials should provide feedback to the researchers and thus influence research at national and international research centers.
- (vi) The development of the human element through research workers participating in training and research workshops, field days and the award of prizes or travel fellowship for workers with the best performance was emphasized.
- (vii) Further applied research at the local level complementary to the coordinated trials to maximise benefits derived from these trials.
- (viii) A better knowledge and definition of the ecology of experiment station, in order to facilitate interpretation or application of results elsewhere was also mentioned.
- (ix) The coordinated variety trials will need to be continuously supported by screening tests to determine varietal reaction to various pests and diseases.

(a)(i) Coordinated Trials

The concept of coordinated trials is not new. It is one of the most efficient ways to obtain quick and reliable results on varietal performance, best fertilizer practices and plant protection measures by eliminating national borders. Generally speaking, coordinated trials have the following characteristics and objectives in common:

- a. They are simple in design and handling so that they can be easily conducted at a large number of locations.
- b. Each coordinated trial has a given set of varieties or treatments, but to allow for local preferences and suggestions, a limited number of varieties or treatments can be added as optional.

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- c. The essence is to obtain quick and reliable results which should be applicable for extension to farmers. As such, these trials may be considered as the final stage of testing promising varieties, good fertilizer rates and practices and adequate control measures against weeds and insects.
- d. An adequate number of test locations is necessary to obtain quick and reliable information from this type of production-oriented field trials.
- e. It is not only a speedy process as multi-location experience is substituted for multi-seasonal experience, but it also provides a unique opportunity to detect most useful additional information such as on adaptability and disease and pest reaction.
- f. Effective and close cooperation with the national extension services is most important in order to ensure that the results will have a direct impact on rice production.

One of the best examples of a successful operation of coordinated trials is probably the AICRIP programme in India which cooperates with over 100 test locations and research centres in that country.

Each test location should conduct those trials which are of specific interest and need for that particular region. As such, WARDA coordinated trials should be considered as part of the national rice programme in the different member countries. They have a high pay-off since without extra cost to the national programme, results from similar trials conducted under similar conditions elsewhere in the WARDA region also become available. Many examples are known which support that this additional type of information has been of utmost value. Without a coordinating approach in rice research, locally obtained information is sometimes

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inadequate and in some cases even misleading.

The essential factor is one of cooperation and coordination to the fullest possible extent. The coordinated trials should be fully integrated into the station's own programme on rice. WARDA is not planning to interfere with the role that each research station has in carrying out its own programme and having its own local management and structure and its own obligations.

The trials should be conducted and supervised under the responsibility of local authorities and the results should be made available in time to the WARDA headquarters for further processing. The results of these trials, however, are and remain the property of the station where they were conducted and research workers will be encouraged to publish them. WARDA's role in this respect is that of a service organisation giving its full support to the actual planning and organisation of these trials and in analysing and reporting the results obtained from these cooperative efforts. Where necessary, resources may be supplemented in order to get the job done properly.

Annually WARDA is planning to hold a rice research workshop at which the results of the coordinated trials will be presented and discussed in detail. Research workers will then have the opportunity to compare and discuss the results from their own trials with those which were conducted elsewhere in the region under similar conditions. Existing trials can be modified and improved upon, while new trials can be added to the programme if the need arises.

Another important aspect is the training of field assistants who are directly involved with the execution of these field trials. These training courses are of vital importance to achieve uniformity in record taking, to improve their field diagnostic skills and to make the trainees fully familiar with all aspects of proper field experimentation with rice.

An active participation of all research workers within the

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region in the technical planning of coordinated trials and the cooperation with experts from elsewhere should result in a programme that focuses on the major needs and interests of all national research programmes. In this way, our programme will become a challenging task of mutual cooperation and assistance rather than a dull procedure. Let us realise that closing the widening gap between rice production and consumption in West Africa depends primarily on the increase of rice production per unit area. Better varieties and improved cultural practices make it also easier to attract the necessary funds for increasing the area under rice cultivation.

#### VARIETY IMPROVEMENT TRIALS

##### Variety Trials

During the Rice Breeding and Varietal Improvement Seminar in January 1973, varieties were nominated for seven coordinated trials covering all major types of rice cultivation in West Africa. Seed rice was received in April-May 1973 and treated at Suakoko (Liberia). All seed parcels, along with the guidelines for conducting these trials and the trial information sheets, were dispatched to all member countries during the last week of May 1973. Whenever possible, more seed was dispatched than was actually needed for these trials to allow the stations to become self-sufficient in seed.

Seed rice of promising varieties from IRRI and Thailand was divided and sent to the various stations as soon as it was cleared by the Regional Plant Quarantine Station at Ibadan, Nigeria. These varieties are to be entered into the Initial Evaluation Tests or in the Coordinated Variety Trials as soon as adequate seed is available.

Table 1 contains the list of the 60 varieties which were tested in the seven trials during the main season of 1973. Table

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2 gives the distribution of the variety trials over the various test locations. It may be expected that the actual number of variety trials in the field may have been around 60 since at some locations the seed was received either too late (as a result of problems encountered with seed clearance, etc.) or the trial failed early in the season due to drought conditions. At Suakoko, on the other hand, a few more trials were actually conducted than originally planned.

At most of the locations which were visited, the trials were adequately to well managed in the field.

In January 1974 requests and printed data sheets were sent out to all member countries for dispatching the results to the WARDA headquarters. Reminders were issued one month later. As per March 15 results were obtained from 9 out of 12 member countries. Processing of the data obtained is in full progress.

At locations with irrigation facilities the two variety trials were repeated during 1973-74. The number of common entries in both trials was 9. All seed treatments were again carried out at Suakoko. Seed parcels, along with the guidelines and trial information sheets, were dispatched during the first week of November. Appendix 1 gives an example of the guidelines for these trials and the requested information to enable a proper interpretation of the results. The number of test locations during 1973-74 was about 13.

In December 1973 - January 1974, all member countries were invited to propose new promising varieties for cooperative testing during 1974 and to provide WARDA with adequate seed quantities for treatment, processing and re-distribution among the various test locations. Varieties which performed very poorly during the 1973 season may be discarded and replaced by more promising ones for 1974. It is expected that during the main season of 1974 approximately 70 variety trials will be conducted.



### Initial Evaluation Tests

Coordinated variety trials only include the most promising varieties and are conducted with at least 5 to 7 replications and a relatively large plot size. New selections, recent introductions and other promising breeding material of which usually not much seed is available will be tested for the first time on a multi-local basis in so-called "Initial Evaluation Tests". This gives the breeders an excellent opportunity to gain additional information about the performance in other parts of West Africa and may give rise to very useful knowledge about disease reaction and adaptability.

As WARDA lacks the necessary equipment and facilities for seed treatment and processing, all work involved in the organisation of these tests was done at Bouaké (Ivory Coast). In 1973 these trials included promising material for rainfed and irrigated rice. Details about test locations and Cooperating countries are presented in Table 3.

For 1974 all countries were again invited to make promising material available for the multi-local tests. It is expected that the number of test locations will increase by about 4.

A common procedure is to promote the best material from the initial evaluation tests to a so-called "Preliminary Variety Trial" (larger plots and replicated). From this trial, the most promising material will be passed on to the final stage of multi-local testing in the coordinated variety trials. It is hoped that within a few years from now enough breeding material will be generated and introduced in the region to start with these preliminary yield tests.

### FERTILIZER TRIALS

During the Seminar on Soil Fertility and Fertilizer Use (January 1973), agreement was reached to start with a simple coordinated trial for studying crop response to fertilizers under the major types of rice cultivation in member countries.

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The planning was for 38 trials divided over the various test locations (see Table 2).

During 1973-74, this trial was conducted at stations with irrigation facilities. Appendix 2 gives an example of the general guidelines for conducting this set of experiments.

#### INSECT CONTROL TRIALS

During the Plant Protection Seminar in May 1973 it was decided and agreed upon to start with a simple insect control trial at suitable locations during the second season of 1973. It is designed to assess insect damage in irrigated rice in terms of yield losses and to study the effectiveness and economics of a granular insecticide in comparison with presently recommended control practices. Difficulties encountered in obtaining the granular insecticides have delayed the start of this coordinated trial.

#### WEED CONTROL TRIALS

The first weed control trial for irrigated rice started during the 1973-74 season. Some of the herbicides to be tested were obtained from IRRI. For details about this trial reference may be made to Appendix 3.

For the main season of 1974 weed control trials are planned both for irrigated and rainfed rice. The chemicals for rainfed conditions have already been obtained from IRRI and those to be tested for irrigated rice are expected soon.

#### ANNUAL RESEARCH REVIEW MEETING

Yearly, the Research Department will prepare a Research Report in which the results from the coordinated trials will be presented, discussed and summarized. With the stationing of WARDA scientists in the region, additional chapters will be added on the results of their activities.

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The Rice Research Workshop will give the scientists and delegates an excellent opportunity to critically review the overall programme and to revise, modify or to expand the set of coordinated trials. The first Annual Research Review Meeting is scheduled for May 1974.

In order to best serve rice research workers and extension personnel in West Africa and to provide outsiders with a clear and comprehensive picture about rice research in West Africa, it was proposed that all research activities on rice in the member countries should be annually summarized and included in this WARDA Research Report. By pooling all valuable information on rice research annually into a single document, this approach should have a good impact and be a good example of a joint effort and effective cooperation. Proposals made in this respect to member countries, IRAT and IITA have been favourably received.

In December 1973 - January 1974, all member countries were invited to submit their contributions to WARDA by mid-March 1974. In the meantime IITA has already submitted its report to the WARDA headquarters.

(b)(i) Special Research Projects (W2, W3 and W4)

In order for the Coordinated Trials to make an impact and remain fully operational at all times, it is necessary for the Coordinated Trials to be continuously fed by research findings from existing research stations and Institutes in the region and WARDA's Special Research Projects. A proper balance between the Coordinated Trials and the Special Research Projects is therefore needed to achieve the ultimate goal of increased rice production per unit area in West Africa.

WARDA's plans for Special Research Projects in varietal improvement (W2) are the reinforcement of breeding work at Mopti (Mali) for deep water and floating rice and at Rokupr (Sierra Leone) for mangrove swamp rice. WARDA's role in breeding

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work for rainfed rice will be limited in nature to the provision of a Research Assistant for Bouaké (Ivory Coast), since varietal improvement for this type of rice cultivation is being carried out both at IITA (Ibadan, Nigeria) and Bouaké (Ivory Coast).

Studies on soil fertility and soil management (W3) are planned for Rokupr (Sierra Leone) and at Richard Toll in Senegal. The major challenge is to solve the existing problems of mangrove soils. Success at Rokupr could have a worldwide impact as many million hectares of mangrove swamp soils could be brought under rice cultivation.

Research on insect pests, diseases and weeds (W4) have been integrated into one project. Screening varieties and large numbers of selections for resistance against pests and diseases, the development of suitable control measures and the assistance to the regional rice breeders to develop resistant varieties, is being undertaken by an Entomologist to be stationed at Rokupr (Sierra Leone). A Pathologist to be stationed at IITA (Ibadan, Nigeria) will investigate the disease aspect. For diseases, major emphasis will be on research on Piricularia oryzae. In weed control, major emphasis will be on controlling the various types of wild rices in commercial plantings.

Only the entomological aspect of Project W4 has been started.

BUDGET - PROJECT W-1 (1974-1975)

I. EXPENDITURE: HEADQUARTERS

(a) <u>Salaries - Professional Staff</u>	<u>120,000.00</u>		<u>137,000.00</u>	
(i) Research Coordinator	40,000.00 <sup>1</sup> /	(33,000.00)	40,000.00 <sup>1</sup> /	(33,000.00)
(ii) Soil Fertility Coord.	35,000.00 <sup>2</sup> /	(33,000.00)	35,000.00 <sup>2</sup> /	(33,000.00)
(iii) Agr. Stat.	19,000.00 <sup>3</sup> /	(25,000.00)	25,000.00 <sup>3</sup> /	
(iv) Breeding Coord.	22,000.00 <sup>4</sup> /	(33,000.00)	33,000.00 <sup>4</sup> /	
(v) Consultants	4,000.00		4,000.00	
(b) <u>Salaries - G.S. Staff</u> (Supporting Staff)	<u>18,710.00</u>		<u>23,900.00</u>	
(i) Bilingual Secretary	10,000.00		11,000.00 <sup>5</sup> /	(10,000.00)
(ii) Admin. Assistant	6,076.00 <sup>5</sup> /	(8,000.00)	8,000.00	
(iii) Typist	1,724.00 <sup>6</sup> /	(2,500.00)	3,300.00 <sup>6</sup> /	
(iv) Driver	910.00 <sup>7</sup> /	(1,200.00)	1,600.00 <sup>7</sup> /	
(c) <u>Equipment and supplies plus</u> <u>Maintenance</u>	<u>23,800.00</u>		<u>19,800.00</u>	
(i) Office equipment	3,500.00		15,000.00 <sup>8</sup> /	
(ii) Supplies	2,200.00		3,000.00	
(iii) One car	4,000.00		-	
(iv) Maintenance	1,100.00		1,800.00 <sup>10</sup> /	
(v) Solar Radiation Equipment	13,000.00 <sup>8</sup> /		-	
(d) <u>Travel of Personnel</u>	<u>15,000.00</u>		<u>16,500.00<sup>11</sup>/</u>	
(e) <u>Training and Seminars</u>	<u>70,000.00</u>		<u>98,500.00</u>	
(i) Research Workshop	35,000.00		38,500.00 <sup>12</sup> /	
(ii) Field Asst. Training	35,000.00		35,000.00	
(iii) Seminar	-		25,000.00 <sup>13</sup> /	
(f) <u>Meeting Coordinating Committee</u> <u>(Dakar)</u>	<u>12,500.00<sup>9</sup>/</u>		<u>15,000.00<sup>14</sup>/</u>	

/...



(g) <u>Research Report and Information</u> <u>(including translation)</u>	<u>5,000.00</u>		<u>5,000.00</u>
(h) <u>Incidentals (c-g) 10%</u>	<u>12,630.00</u>		<u>15,480.00</u>
II. <u>EXPENDITURE - SEED STORAGE CENTER</u>	<u>20,000.00</u>		<u>45,000.00</u>
Operational Costs	20,000.00 <sup>10/</sup>	(36,000.00)	45,000.00 <sup>15/</sup>
III. <u>EXPENDITURE - PLANT QUARANTINE</u>	<u>67,900.00</u>		<u>27,500.00</u>
- Buildings (lump sum for glasshouses)	38,500.00		14,000.00 <sup>16/</sup>
- Operational costs	39,400.00		<u>13,500.00</u>
- Equipment and supplies:			
Car 4,400.00			-
Laboratory 30,000.00 <sup>11/</sup> (26,600.00)			7,500.00 <sup>17/</sup> (5,500.00)
Equipmt.			
Other op. 5,000.00 <sup>12/</sup> (33,740.00)			6,000.00 <sup>18/</sup>
costs			
IV. <u>EXPENDITURE - TRIALS POINTS</u>	<u>279,120.00</u>		<u>346,500.00</u>
Field Assistants: 29 loc. x 2 x 3,000 p.y.	174,000.00 <sup>13/</sup>		210,000.00
Operating costs for 225 trials at 330	74,250.00 <sup>14/</sup>		99,000.00
Investments on 50 new trials at 110	5,500.00 <sup>15/</sup>		6,000.00
Incidentals 10%	25,370.00		31,500.00
<u>TOTAL EXPENDITURE UNDER W-1</u>	<u>650,660.00</u>		<u>750,180.00</u>
10% Inflation			<u>75,020.00</u>
			<u>825,200.00</u>



WEST AFRICA RICE DEVELOPMENT ASSOCIATION

Summary of costs classified according to  
Object of Expenditure  
(in US\$)

	<u>1974</u>	<u>1975</u>
<u>Personnel Services</u>	<u>346,610.00</u>	<u>410,050.00</u>
Professional Staff	120,000.00	137,000.00
Non-Professional Staff	174,000.00	210,000.00
Supporting Staff	18,710.00	23,900.00
Travel	15,000.00	16,500.00
Incidentals	18,900.00	22,650.00
<u>Equipment and Supplies</u>	<u>66,630.00</u>	<u>35,880.00</u>
Equipment	60,400.00	28,500.00
Supplies	2,200.00	3,000.00
Maintenance	1,100.00	1,800.00
Incidentals	2,930.00	2,580.00
<u>Buildings</u>	<u>38,500.00</u>	<u>14,000.00</u>
<u>Training</u>	<u>96,250.00</u>	<u>130,350.00</u>
Seminars, Conferences, reports	87,500.00	118,500.00
Incidentals	8,750.00	11,850.00
<u>Operational Costs</u>	<u>106,670.00</u>	<u>159,900.00</u>
Seed Storage Center	20,000.00	45,000.00
Plant Quarantine	5,000.00	6,000.00
Trial Points	74,250.00	99,000.00
Incidentals	7,420.00	9,900.00
<u>Reserve for inflation</u>	-	<u>75,020.00</u>
<u>Total</u>	<u>654,660.00</u>	<u>825,200.00</u>

1975 - BUDGET

WEST AFRICA RICE DEVELOPMENT ASSOCIATION

Summary of costs by Program and Activity  
1974-1975 (in US\$)

	<u>Budget</u>	
	<u>1974</u>	<u>1975</u>
<u>Major Activities</u>		
<u>1. Research Coordination</u>		
Salaries		
- Professional Staff	120,000.00	137,000.00
- Supporting Staff	18,710.00	23,900.00
Equipment and Supplies		
- Equipment	7,500.00	15,000.00
- Maintenance of equipment	1,100.00	1,800.00
- Supplies	2,200.00	3,000.00
Travel	15,000.00	16,500.00
Incidentals	2,580.00	3,630.00
Total	<u>167,090.00</u>	<u>200,830.00</u>
<u>2. Training, Seminars and Meetings</u>		
Training	35,000.00	35,000.00
Seminars and Technical Conferences	35,000.00	63,500.00
Meeting Steering Committee	12,500.00	15,000.00
Research Reports	5,000.00	5,000.00
Incidentals	8,750.00	11,850.00
Total	<u>96,250.00</u>	<u>130,350.00</u>
<u>3. Seed Storage Center</u>		
Operational Costs	<u>20,000.00<sup>1/</sup></u>	<u>45,000.00</u>

<sup>1/</sup> Cost in 1974 calculated for 7 months.

4. Plant Quarantine

Buildings	38,500.00	14,000.00
Equipment	47,400.00	7,500.00
Incidentals	1,300.00	-
Other operating costs	<u>5,000.00</u>	<u>6,000.00</u>
Total	<u>92,200.00</u>	<u>27,500.00</u>

5. Trial Points

Equipment/supplies	5,500.00	6,000.00
Operating costs	74,250.00	99,000.00
Field Assistants	174,000.00	210,000.00
Incidentals	<u>25,370.00</u>	<u>31,500.00</u>
Total	<u>279,120.00</u>	<u>346,500.00</u>

6. Various (reserve for inflation)

75,020.00

GRAND TOTAL

654,660.00      825,200.00



1975 BUDGET

WEST AFRICA RICE DEVELOPMENT ASSOCIATION

Summary of Man-years and costs by Organizational unit - 1974/1975  
(in US\$)

	Budget			
	1974		1975	
	m/y	Cost	m/y	Cost
<b>1. <u>Research Coordination</u></b>				
Research Coordinator	12	40,000.00	12	40,000.00
Soil Fertility Coordinator	12	35,000.00	12	35,000.00
Agricultural Statistician	10	19,000.00	12	25,000.00
Breeding Coordinator	8	22,000.00	12	33,000.00
Consultant	1	4,000.00	1	4,000.00
Supporting Staff	36	18,710.00	48	23,900.00
Equipment, supplies and maintenance				
- Equipment	-	7,500.00	-	15,000.00
- Supplies	-	2,200.00	-	3,000.00
- Maintenance	-	1,100.00	-	1,800.00
Travel	-	15,000.00	-	16,500.00
Incidentals	-	2,580.00	-	3,630.00
Total	<u>79</u>	<u>167,090.00</u>	<u>97</u>	<u>200,830.00</u>
<b>2. <u>Training and Seminars</u></b>				
Training	-	35,000.00	-	35,000.00
Seminars and Technical Conferences	-	35,000.00	-	63,500.00
Meeting Steering Committee	-	12,500.00	-	15,000.00
Research Reports	-	5,000.00	-	5,000.00
Incidentals	-	8,750.00	-	11,850.00
Total	-	<u>96,250.00</u>	-	<u>130,350.00</u>
<b>3. <u>Seed Storage Center</u></b>				
Operational Costs	-	20,000.00	-	45,000.00
Total	-	<u>20,000.00</u>	-	<u>45,000.00</u>

/...

4. Plant Quarantine

Buildings	-	38,500.00	-	14,000.00
Equipment	-	47,400.00	-	7,500.00
Incidentals	-	1,300.00	-	-
Other Operating Costs	-	<u>5,000.00</u>	-	<u>6,000.00</u>
Total	-	<u>92,200.00</u>	-	<u>27,500.00</u>

5. Trial Points

Equipment/Supplies	-	5,500.00	-	6,000.00
Operating Costs	-	74,250.00	-	99,000.00
Field Assistants	696	174,000.00	840	210,000.00
Incidentals	-	<u>25,370.00</u>	-	<u>31,500.00</u>
Total	<u>696</u>	<u>279,120.00</u>	<u>840</u>	<u>346,500.00</u>

6. Various (reserve for inflation)

75,020.00

GRAND TOTAL

775      654,660.00      937      825,200.00



WEST AFRICA RICE DEVELOPMENT ASSOCIATION

Breakdown of Proposed Capital Budgets  
1974 - 1975 (in US\$)

	<u>Research Coord.</u>		<u>Coordinated Trials</u>		<u>Plant Quarantine</u>		<u>Total</u>	
	1974	1975	1974	1975	1974	1975	1974	1975
Vehicles	4,000.00	-	-	-	4,000.00	-	8,000.00	-
Solar Radiation Equipment	-	-	-	-	13,000.00	-	13,000.00	-
Glasshouses	-	-	-	-	38,500.00	14,000.00	38,500.00	14,000.00
Laboratory Equipment	-	-	-	-	30,000.00	7,500.00	30,000.00	7,500.00
Office Equipment	3,500.00	15,000.00	-	-	-	-	3,500.00	15,000.00
Small Equipment	-	-	5,500.00	6,000.00	-	-	5,500.00	6,000.00
<b>Total</b>	<b>\$7,500.00</b>	<b>15,000.00</b>	<b>5,500.00</b>	<b>6,000.00</b>	<b>85,500.00</b>	<b>21,500.00</b>	<b>98,500.00</b>	<b>42,500.00</b>

Tableau 1. Variétés communes aux essais variétaux

Table 1. Common entries in the variety trials

Exp. 1 Pluvial, cycle court  
Rainfed, short duration

- |    |                 |    |                |
|----|-----------------|----|----------------|
| 1. | Dourado Precoce | 5. | Cheke Chiao    |
| 2. | IR 442          | 6. | 15/IR 528-1-32 |
| 3. | HBD 2           | 7. | Soavina        |
| 4. | I Kong Pao      |    |                |

Exp. 2 Pluvial, cycle moyen  
Rainfed, medium duration

- |    |             |     |                  |
|----|-------------|-----|------------------|
| 1. | IR 5        | 6.  | Iguape Cateto    |
| 2. | IR 20       | 7.  | 46/IR 305-17-1-3 |
| 3. | IR 442      | 8.  | 63-63            |
| 4. | OS 6        | 9.  | T x 52.10.1      |
| 5. | Moroberekan | 10. | LAC 23           |

Exp. 3 Irrigué, cycle court  
Irrigated, short duration

- |    |            |    |                  |
|----|------------|----|------------------|
| 1. | IR 20      | 5. | SML Awini        |
| 2. | Cica 4     | 6. | IR 878 B2        |
| 3. | I kong Pao | 7. | IR 360 - 27 (52) |
| 4. | DJ 346 D   |    |                  |

Exp. 4 Irrigué, cycle moyen  
Irrigated, medium duration

- |    |                   |    |           |
|----|-------------------|----|-----------|
| 1. | BD 2              | 5. | H 821-3   |
| 2. | IR 5              | 6. | DJ 684 D  |
| 3. | IR 442            | 7. | SML Alupi |
| 4. | (58) IR 382-7-2-2 |    |           |

Exp. 5 Immersion profonde / mangrove cycle moyen  
Deep flooded/mangrove swamp, medium duration

- |    |              |    |                 |
|----|--------------|----|-----------------|
| 1. | BD 2         | 6. | Bentoubala B    |
| 2. | XA 228       | 7. | Sigadis         |
| 3. | D 52-37      | 8. | Gambiaka Kokoum |
| 4. | IR 442       | 9. | L 102-8         |
| 5. | Ebandioulaye |    |                 |



Exp. 6 Immersion profonde/mangrove, cycle long  
Deep flooded/mangrove swamp, long duration

- |    |             |     |            |
|----|-------------|-----|------------|
| 1. | RH 2        | 6.  | Oma Rosso. |
| 2. | CP 4        | 7.  | L 78-9148  |
| 3. | Nachin 11   | 8.  | IM 16      |
| 4. | HKG 98      | 9.  | Gissi 25   |
| 5. | Phar Com En | 10. | Gambiaka   |

Exp. 7 Riz flottant  
Floating conditions

- |    |            |     |                     |
|----|------------|-----|---------------------|
| 1. | Malobadian | 6.  | Indochine Blanc     |
| 2. | Nang Kiew  | 7.  | Indochine G (62-61) |
| 3. | Khao Gaew  | 8.  | Indochine 24        |
| 4. | Meli Sawn  | 9.  | Indochine 70        |
| 5. | IR 442     | 10. | Kading Thang        |



Tableau 2. Planning des essais coordonnés, 1973, première campagne.

Table 2. Planning Coordinated Trials - 1973, first season.

Pays Country	Location Site	Variety trials Essais Variétaux					Total Grand Total	
		A	B	C	D	Total		E
Mauritania Mauritanie	Kaédi		2			2	1	3
Senegal	Richard Toll		1			1	2	3
	Séfa	1				1	2	3
	Djibélor		1			1	1	2
The Gambia	Jenoy			1		1	1	2
	Sapu		1	1	1	3	1	4
Sierra Leone	Rokupr	1		2		3	2	5
	Mange		2			2	2	4
Liberia	Suakoko	2	2			4	1	5
Ivory Coast	Bouaké	2				2	1	3
	Ferkessedougou	2	2			4		4
Côte d'Ivoire	Man	2				2	1	3
	Odiéné	2				2	1	3
	Gagnoa		2			2	1	3

A: Riz pluvial/Rainfed rice. B: Riz irrigué/Irrigated rice. C: Deep flooded and mangrove swamp rice / Riz d'immersion profonde et de mangrove. D: Riz flottant/Floating rice. E: Essais de fertilisation/Fertilizer trials



Tableau 3. Sites et nombre de variétés sélectionnés pour l'essai d'évaluation initiale. 1

Table 3. Locations and number of selections for the Initial Evaluation Test

Material provided by Matériel fourni par	No. of selections Nombre de variétés	Test locations					Sites	
		Rokupr	Suakoko	Richard Toll	Bouaké	I I T A	Sikasso	Farakoba
Sierra Leone	7	x	x	x	x	x	x	
Liberia	14	x	x	x	x	x	x	
Senegal	rainfed 10 pluvial	x	x		x	x	x	x
"	irrigated irrigué 10	x	x	x	x	x	x	
Ivory Coast	rainfed 6 pluvial	x	x		x	x	x	
Côte d'Ivoire	rainfed 18 pluvial	x	x		x	x	x	
"	rainfed 6 pluvial	x	x		x	x	x	
I I T A	rainfed 65 pluvial	x	x		x	x		x
"	irrigated irrigué 40	x	x	x	x	x		

Dec. 24, 1974

INCOMING TELEX

Files: ICARDA

G 11

cc: Mr. Gaudio

From: Hague via Natherland Embassy in  
Washington

NETH EMB WSH

1974 DEC 24 AM 8:04

⊕

INTBAFRAD WSH

Distribution:

MR M LEJEUNE

Mr. Lejeune ✓  
*[Handwritten signature]*

EXECUTIVE SECRETARY CONSULTATIVE GROUP ON  
INTERNATIONAL AGRICULTURAL RESEARCH

Mr Gaudio

CABLE ADDRESS: INTBAFRAD WASHINGTON DC VS

Please keep  
track of these  
replies and report  
their contents.  
*[Handwritten flourish]*

SUBJECT: SUB-COMMITTEE ICARDA

RE YOUR CABLE DATED DECEMBER 16 1974

1. ACCEPT MEMBERSHIP SUB-COMMITTEE INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH ON DRY AREAS.
2. FEBRUARY MEETING IN ROME WILL BE ATTENDED BY MR. G J KOOPMAN, ROYAL TROPICAL INSTITUTE
3. CONTRIBUTION TO EXPLORATORY FUND WILL BE DLRS 25.000 USDOLLAR CURRENCY.

MIN DEV COOP,

THE HAGUE, 23DEC74 "

INTBAFRAD WSH





INTERNATIONAL DEVELOPMENT RESEARCH CENTRE  
CENTRE DE RECHERCHES POUR LE DÉVELOPPEMENT INTERNATIONAL

Box 8500, Ottawa, Canada, K1G 3H9 · Telephone (613) 996-2321 · Cable: RECENTRE · Telex: 053-3753

December 18, 1974

Dr. John K. Coulter  
Scientific Adviser  
Consultative Group on International  
Agricultural Research  
c/o World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
U.S.A.

Dear John:

Attached is a copy of Dr. Chandler's letter re his  
visit to WARDA in February, 1975.

With best wishes.

Yours sincerely,

  
W.D. Daniels  
Agriculture, Food & Nutrition  
Sciences

Encl.

COPY

THE ROCKEFELLER FOUNDATION  
1111 FIFTH AVENUE  
NEW YORK, N.Y. 10020

*WJH*  
*GWB*

December 10, 1974

Dear Dr. Diouf:

I talked with Dr. Joseph Hulse in Guatemala last week. IDRC has agreed that they would like for me to spend a week to ten days looking at WARDA next February. If you are agreeable to this, will you, as quickly as possible, send me a guess at the itinerary so IDRC can send me an open ticket. I shall be at IITA through February 13. I would be ready to start my one-week stint on February 14th. I presume I should visit you in Monrovia and then go to several other stations within the WARDA scheme.

I hope this is agreeable with you, and I look forward to getting better acquainted with WARDA's program.

Sincerely,

Robert F. Chandler, Jr.  
Director

*Nov 4*

Mr. Jacques Diouf  
WARDA  
Post Office Box 1019  
Monrovia, Republic of Liberia  
WEST AFRICA

*John Coulter*  
*IITA → Feb. 22*

cc: Dr. Joseph Hulse

RFC:ah

*Joe: I shall write to you as soon as I hear from Dr. Diouf. Regards, Bob*



G 11

FEDERAL MINISTRY OF AGRICULTURE  
AND NATURAL RESOURCES

PERMANENT SECRETARY'S OFFICE DIVISION

LAGOS

P.M.B. No. 12613

Telegrams PERMSEARCH

Telephone 24186



Ref. No. SNR.45/S.2/130

Date 12th December, 1974.

Mr. Jacques Diouf,  
Executive Secretary,  
West African Rice Development  
Association,  
E.J. Roze Memorial Building,  
P.O. Box 1019,  
Monrovia,  
Liberia.

Dear Mr. Diouf,

In his address to the 4th Session of the Governing Council of WARDA on the 2nd December, 1974 at Ibadan, the Honourable Federal Commissioner for Agriculture and Natural Resources announced that the Federal Government will contribute half a million Naira through the Consultative Group for the support of the budget of IITA, ILCA, ICRISAT and WARDA in 1975. The purpose of this letter is to confirm the statement I made to the Council that the share of WARDA from the Nigerian contribution is ₦50,000. This money will be available after April 1975 when our financial year comes into effect and will be deposited in any bank of your choice. The purpose of the Nigerian contribution is to enable WARDA to expand the useful work it is doing in member countries.

I am sending a copy of this letter to the Executive Secretary of the Consultative Group.

Yours sincerely,

(Dr. Bukar Shaib)  
Permanent Secretary.

*Unattached copy.*

INBAFRAD-2/10 C FUF948 LXF555 LV

*CCFAN*

UFNX HZ LXMV 030

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MONROVIA 30 9 1610

Mr. Cheek

*G-11*

DECEMBER 9, 1974

LTF

CHEEK INTBAFRAD

WASHINGTONDC

RECEIVED  
COMMUNICATIONS  
SECTION  
DEC 10 8 35 AM 1974

INVIEW ABSENCE FROM HEADQUARTERS OF CHIEF ADMINISTRATION AND MYSELF  
DURING JANUARY WILL APPRECIATE POSTPONEMENT MISSION PROGRAM AND  
BUDGET OFFICER TO 16/20 FEBRUARY STOP REGARDS

DIOUF WARDA

COL 16/20



G 11

RÉPUBLIQUE FRANÇAISE

OFFICE DE LA RECHERCHE SCIENTIFIQUE  
ET TECHNIQUE OUTRE-MER

24, RUE BAYARD, PARIS (8<sup>e</sup>)  
Tél. : 225-31-52

PARIS, le 6 DEC. 1974

Le Directeur Général

GC.y1

Dear John,

I just receive, due to the recent mail strike which raised some problems in France, your letter of october 21, together with your WARDA report. This report is really an exhaustive and fair document and I have no other comment about it.

I only wish M.DIOUF follows the advice which are given to him and that you are able to find rapidly and without too many difficulties the really needed Research Manager.

It is not unlikely that I might fly over to Washington around December 18 to attend a meeting of the SAHEL Committee of the N.A.S. If it were the case, I certainly would try, within the possibilities of a very tight schedule, either to call on you for a few minutes or, at least, to get you over the phone.

Please, share my best regards with Monty, who I shall also call on if I go to Washington,

Yours sincerely,

G. CAMUS

M. John K. COULTER  
CONSULTATIVE GROUP ON INTERNATIONAL  
AGRICULTURAL RESEARCH  
1818 H St., N.W  
WASHINGTON, D.C. 20433 (U.S.A.)

Copy sent  
to Mr. Zedelmon  
12/16/74





G 11

December 3, 1974

Mr. Jacques Diouf  
Executive Secretary  
West Africa Rice Development Association  
E. J. Roye Memorial Building  
P. O. Box 1019  
Monrovia  
Liberia

Dear Jacques:

Before I finally say goodbye, let me mention four things:

1. On my return to Washington I will recommend that the CG Secretariat should continue its discussions with donor members of the CG with a view to mobilizing funds for W-1 in 1975 at a level of about the same amount as in 1974 (i.e. \$475,000), plus 15 per cent for inflation. That gives a sum of about \$550,000. In addition, the CG Secretariat will undertake to find funds to pay the costs of the research adviser in 1975. It is my understanding also, based on statements made by the Nigerian authorities, that the Nigerian contribution of ₦ 50,000 for 1975 is to be counted within this amount.
2. The WARDA Secretariat and the CG Secretariat will agree in writing on the procedure for the nomination, and for the appointment by the Executive Secretary of WARDA, of the research adviser.
3. It is my understanding that the Executive Secretariat of WARDA (a) will prepare for the information of CG donors a program of expenditures of \$550,000 on the W-1 program in 1975, exclusive of the costs of the research adviser, and (b) also will give an itemized estimate of the costs of the research adviser, including support costs. The two Secretariats take as an approximate working figure a total of CG funds for 1975 of \$625,000, based on a full year's employment of the research adviser. With respect to (a), the CG Secretariat would appreciate it if the WARDA Secretariat, in describing its projected expenditures on the W-1 program for 1975, would employ in so far as possible, the categories of expenditure described in the CG paper, "Budgeting and Accounting Procedures of the International Agricultural Research Centers," dated July 1974.

Mr. Jacques Diouf

- 2 -

December 3, 1974

4. It would be appreciated, I know, if you would address to the Executive Secretary of the CG (Mr. Michael L. Lejeune) a letter describing the position that WARDA has now reached concerning the conclusions and recommendations of the Coulter report. The CG Secretariat would propose to circulate this letter to those members of the CG who are supporting W-1.

Sincerely,

Harold Graves

HGraves:apm

Dictated but not seen by Harold Graves



G 11

OUTGOING WIRE

TO: ALBRECHT  
TROPFOUND  
IKEJA

DATE: December 1, 1974

CLASS OF SERVICE: FULL RATE

///

COUNTRY: NIGERIA

TEXT:  
Cable No.: FOR GRAVES FOLLOWING YOUR CABLE NOVEMBER TWENTYSEVEN RECEIVED SATURDAY EYE TELEPHONED COULTER LONDON TODAY BEFORE HIS DEPARTURE TO NAIROBI STOP SENTENCE TO BE TAKEN WITHIN CONTEXT PREVIOUS SENTENCE AND ITEM C PARA TWENTYONE STOP BOTH CENTERS AND WARDA WILL CONTINUE TO PLAY ROLE IN WEST AFRICA RICE DEVELOPMENT PRIMO CENTERS WORK BASIC WITH CONTINUING MAJOR WEST AFRICA ROLE IN RICE FOR EXAMPLE BREEDING FOR BROAD WEST AFRICAN CONDITIONS AND WORLDWIDE RICE STRATEGY AS WARDA NOT MAJOR BREEDING ORGANIZATION VIDE PARA TWENTYONE SECUNDO WHEN WARDA REORGANIZED AND OPERATING FULLY ON NEW BASIS CENTERS WOULD NORMALLY WANT TO WORK THROUGH WARDA AND AVOID PARALLEL OR SIMILAR OUTREACH PROGRAMS IN ANY WARDA MEMBER COUNTRY TERTIO SENTENCE IS STATEMENT OF EVENTUAL OBJECTIVE THAT WARDA WHEN REORGANIZED SHOULD BE RESPONSIBLE FOR MAJOR OUTREACH EFFORT STOP BASIC POINT IS THAT CENTERS AND WARDA DEVELOP COOPERATION AS CLOSE AS POSSIBLE WITH WORK PROGRAMS WELL COORDINATED AND SENTENCE SHOULD THEREFORE BE INTERPRETED IN SPIRIT OF MUTUAL ASSISTANCE OF CENTERS AND WARDA REGARDS CHEEK INTBAFRAD

AS

NOT TO BE TRANSMITTED

AUTHORIZED BY: ~~CGIAR Secretariat~~  
Bruce M. Cheek, Dep. Ex. Sec.  
NAME  
CGIAR Secretariat  
DEPT. Vice President, Projects  
SIGNATURE *B. M. Cheek*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)  
REFERENCE:

CLEARANCES AND COPY DISTRIBUTION:  
cc: Sir John Crawford  
Roger Rowe  
John Coulter (cl. in subst. by phone)

For Use By Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch:                     

VO



INTERNATIONAL DEVELOPMENT ASSOCIATION INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT INTERNATIONAL FINANCE CORPORATION

OUTGOING WIRE

TO: ALBERT TOUBROUN  
IKELA  
GHANA

DATE: December 1, 1974

CLASS OF SERVICE: TELETYPE  
FULL RATE

TEXT: Cable No.

FOR GRAVES FOLLOWING YOUR CABLE NOVEMBER TWENTYSEVEN RECEIVED SATURDAY EYE  
TELEPHONED GOSSETT LONDON TODAY BROKE HIS DEPARTMENT TO MAINTAIN STOP SENTENCE  
TO BE TAKEN WITHIN CURRENT PREVIOUS SENTENCE AND ITEM C PARA TWENTYONE STOP  
BOTH CENTERS AND WARDA WILL CONTINUE TO PLAY ROLE IN WEST AFRICA REDEVELOPMENT  
PRIME CENTERS WORK BASIC WITH CONTINUING MAJOR WEST AFRICA ROLE IN RISK FOR  
EXAMPLE BRIDGING FOR BROAD WEST AFRICAN CONDITIONS AND WELLWISHES REDEVELOPMENT  
AS WARDA NOT MAJOR BRIDGING ORGANIZATION VIDE PARA TWENTYONE SECOND WHEN WARDA  
REORGANIZED AND OPERATING FULLY ON NEW BASIS CENTERS WOULD NORMALLY WANT TO WORK  
THROUGH WARDA AND AVOID PARALLEL OR SIMILAR OUTREACH PROGRAMS IN ANY WARDA  
MEMBER COUNTRY THIRD SENTENCE IS A STATEMENT OF ESSENTIAL OBJECTIVE THAT WARDA  
WHEN REORGANIZED SHOULD BE RESPONSIBLE FOR MAJOR OUTREACH REPORT STOP BASIC  
POINT IS THAT CENTERS AND WARDA DEVELOP COOPERATION AS CLOSE AS POSSIBLE WITH  
WORK PROGRAMS WILL COORDINATED AND SENTENCE SHOULD THEREFORE BE INTERPRETED  
IN SPIRIT OF MUTUAL ASSISTANCE OF CENTERS AND WARDA REGARDING CHECK INTERFERENCE

DISPATCHED

DEC 1 12 08 PM 1974  
COMMUNICATIONS SECTION

NOT TO BE TRANSMITTED

SECTION

FOR USE BY COMMUNICATIONS SECTION

John Collier (cl. in subat. by phone)  
Roger Rowe  
cc: Mr. John Crawford

DEC 1 12 08 PM 1974

Vice President, Projects  
COIAL Secretariat  
George N. Cheek, Jr., Sec.

VO

ORIGINAL FILE COPY

## OFFICE MEMORANDUM

TO: Files

FROM: Harold Graves

SUBJECT: WARDA: Appointment of the Research Adviser

DATE: December 1, 1974

On November 30 in Ibadan, I had a brief conversation with Jacques Diouf, the Executive Secretary of the West Africa Rice Development Association (WARDA), concerning the procedure for appointing the research adviser to the Scientific Coordinator of WARDA, as recommended in the report of the Consultative Group Secretariat mission led by John Coulter. I said that I could not speak definitively on this subject; I presumed however (a) that the form would be for the appointment to be made by the Executive Secretary of WARDA, (b) that the suggestion of an individual could come either from WARDA or the Consultative Group Secretariat, (c) but that the individual appointed would have to be the agreed choice of both WARDA and the Consultative Group Secretariat. I said that he would get a letter from Washington concerning this procedure after my return.

Mr. Diouf said that he had talked with Joseph Hulse of IDRC about the possibility that Dr. Robert Chandler of the Asian Vegetable Center might be recruited to serve as research adviser (as indicated in a letter of November 4 from Hulse to Chandler). It was Diouf's understanding that Chandler had indicated an interest in principle, subject to the discharge of certain commitments still outstanding. Diouf expressed some concern that an appointment be made quickly; and, indeed, if WARDA's progress is to be reviewed, as the Coulter report recommends, in mid-1975, this is a matter of highest priority. Chandler presumably would not be free to take up the post of research adviser full time until after his retirement next June 1, but perhaps would be able to pay one or two longish visits in the meantime.

HGraves:apm

cc: Mr. Coulter  
Mr. Cheek (on return)



Files

December 1, 1974

Harold Graves

WARDA: Appointment of the Research Adviser

On November 30 in Ibadan, I had a brief conversation with Jacques Diouf, the Executive Secretary of the West Africa Rice Development Association (WARDA), concerning the procedure for appointing the research adviser to the Scientific Coordinator of WARDA, as recommended in the report of the Consultative Group Secretariat mission led by John Coulter. I said that I could not speak definitively on this subject; I presumed however (a) that the form would be for the appointment to be made by the Executive Secretary of WARDA, (b) that the suggestion of an individual could come either from WARDA or the Consultative Group Secretariat, (c) but that the individual appointed would have to be the agreed choice of both WARDA and the Consultative Group Secretariat. I said that he would get a letter from Washington concerning this procedure after my return.

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HGraves :apm

314  
~~\_\_\_\_\_~~  
✓ G11

November 29, 1974

Dear Mr. Vernede:

Mr. Graves is away from the Bank this week, but he has asked me to send you the attached memorandum on the needs of the WARDA W-1 program for 1974. It appears that Mr. Diouf, the Executive Secretary of WARDA, would be quite willing to defer any expenditure on the Moore quarantine station at least until 1975, and that to do so would reduce his 1974 needs to \$607,000. Of that amount, perhaps as much as \$238,000 could be provided by donors already providing funds on a bilateral basis.

It seemed to be the consensus of the Consultative Group that the Group Secretariat should explore the possibility of finding "bridging" funds which would enable the W-1 program to go forward while potential donors were taking time to consider whether, in fact, they would be willing to give longer-term support to the W-1 program.

The purpose of this letter is to ask, quite informally, whether you would be willing to propose to your authorities that your government make a contribution to bridging funds for the W-1 program. If so, I would appreciate knowing what the upper and lower ranges might be for the amount of your support, and the period of time in which you would be willing to make it available for use -- that is, until the end of 1974 or until some earlier date.

We would propose that the funds be made available to the end of 1974, so that if little or no support for W-1 were forthcoming at International Centers Week next year, the program could be terminated or modified in an orderly manner. We have addressed a similar letter to IDRC, and to the Dutch and Swedish Governments, but, as you can appreciate, are completely unable to say what their reaction will be. The World Bank, in its role as residual donor, also might be able to consider a contribution to WARDA, depending on what calls it may face to give assistance to existing international agricultural research centers: but the outlook here, for the moment, is uncertain, pending a decision by the Inter-American Development Bank on grants to centers in the Western Hemisphere.

Sincerely yours,

  
Bruce M. Cheek

Enclosure

Mr. Henri Vernede  
Commissaire du Gouvernement aupres des  
Instituts de recherche specialisee Outre-Mer  
Secretariat d'Etat aux Affaires Etrangeres  
20 rue Monsieur  
75007 Paris  
France





G-11



# INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE

OYO ROAD, P.M.B. 5320, IBADAN, NIGERIA TELEPHONE 23741 CABLE: TROPFOUND, IKEJA

28 November 1974

Mr. Michael L. LeJeune, Executive Secretary  
Consultative Group on International  
Agricultural Research  
1818 H St., N.W.  
Washington, DC 20433

Dear Mike:

Thank you for your letter of 14 November - as you suggested, we are inviting Diouf to attend the Director's Meeting in February. We are also inviting Havener to represent ICARDA and wrote Dick Demuth we'd be pleased to have the Gene Board represented. I didn't know until Harold Graves arrived that ILRAD now has a director but since he didn't recall Henson's name or place of business I am unable to contact him. But, I have been in touch with John Pino regarding ILRAD matters so he will probably be writing me.

As I pointed out when you and John Coulter were here, WARDA leadership could well misinterpret the statement in paragraph 23 of the report to CGIAR which reads "The centers, on their part, would work through WARDA rather than outside it". I asked for a rephrasing. As Harold will report, it is now interpreted that WARDA is to have the prior responsibility for rice research and training activities in West Africa. As I mentioned during your visit we cannot work "through" another agency for this would prejudice the position of our Board of Trustees. Out of fairness to us and to assure that the smooth working relations you refer to in your letter are not harmed, we respectfully ask that CGIAR disown the statement in question and so advise all parties concerned including, perhaps, the CGIAR membership.

Helen joins me in sending best wishes and hopes that you'll return to IITA before our departure next summer.

Sincerely yours,

H. R. Albrecht  
Director General

ar



INTBAFRAD WSH

INCOMING CABLE

G 11 RECEIVED

WU TFC WSH

TLXBOO4 WAD258(2247)(1-224775G331)PD 11/27/74 2246

ICS IPMIIHA IISS

IISS FM RCA 27 2246

PMS WASHINGTON DC

WUB5529 UXS404 OMX752X LWAO67 PHONE1444

URNX CO NGLS 071

LAGOS 71/70 27 1854 NOVEMBER 27, 1974

INTBAFRAD

WASHINGTONDC

CHEEK FOR COUTLER URGENT THIRD SENTENCE PARAGRAPH  
23 WARDA MISSION REPORT BEING INTERPRETED TO MEAN  
ALL RICE OUTREACH IN WEST AFRICA SHOULD BE CONDUCTED THROUGH  
WARDA STOP SENTENCE READS QUOTE THE CENTER WOULD WORK  
THROUGH WARDA RATHER THAN OUTSIDE IT STOP UNQUOTE  
IF SOME OTHER EXPLANATION CAN BE

~~COL 23~~

~~PHONE1444 INTBAFRAD PAGE2/20~~

ADVANCE FOR THIS APPARENTLY QUITE CATEGORICAL STATEMENT  
HIGH DESIREABLE I SHOULD RECEIVE IT IMMEDIAELY CARE OF  
ALBRECHT STOP REGARDS

GRAVES#

CABLES NOTE: Mr. Cheek contacted on Nov. 30 1974

NNN

NNNN

Distribution

Mr. Cheek ✓

**OUTGOING WIRE**

TO: DIOUF  
WARDA  
MONROVIA  
COUNTRY: LIBERIA

DATE: NOVEMBER 15, 1974

CLASS OF  
SERVICE: LT | Rca

Ext. 3592

TEXT:  
Cable No.:

IN VIEW YOUR RECOMMENDATIONS WILL PLAN TO BE IN IBADAN ON BOTH  
NOVEMBER 25 AND 26 IN HOPE THAT IF APPEARANCE BEFORE SCIENTIFIC  
COMMITTEE FOR DISCUSSION OF COULTER SEEMS DESIRABLE IT CAN BE ARRANGED  
FOR ~~NOV~~ NOVEMBER 25

REGARDS

GRAVES

**NOT TO BE TRANSMITTED**

AUTHORIZED BY:

NAME Harold N. Graves, Jr.

DEPT. CGIAR Secretariat

SIGNATURE *Harold N. Graves, Jr.*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

CLEARANCES AND COPY DISTRIBUTION:

HG;mcj

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(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *HC*



INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

OUTGOING WIRE

NOVEMBER 15, 1974

DATE

TO:

Handwritten initials: *RA*

CLASS OF  
SERVICE

WARDA

Ext. 3592

MONROVIA

LIBERIA

COUNTRY

TEXT

Capit. No.

IN VIEW YOUR RECOMMENDATIONS WILL PLAN TO BE IN ERADAN ON BOTH  
NOVEMBER 23 AND 26 IN HOPE THAT IN APPEARANCE BEFORE SCIENTIFIC  
COMMITTEE FOR DISCUSSION OF COUNTER SEEMS DESIRABLE IT CAN BE ARRANGED

REGARDS

FOR NOVEMBER 23

GRAVES

NOT TO BE TRANSMITTED  
COMMUNICATIONS SECTION

CLASSIFIED COPY DISTRIBUTION

Nov 15 6 43 PM 1974

Harold N. Graves, Jr.

NAME

DISPATCHED

CGIAR Secretariat

POST

SIGNATURE OR INDIVIDUAL AUTHORIZED TO APPROVE

REFERENCE

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INTBAFRAD WSH  
INBAFRAD-1/15 SUF200 LXX748 INCOMING CABLE  
UFWX HZ LXMV 059  
MONROVIA 59 14 1554

G11

Distribution: Mr. Lejeune  
Mr. Graves

LTF NOV 14 1974  
LEJEUNE  
INTBAFRAD  
WASHINGTONDC

VERY PLEASED ATTENDANCE HAROLD GRAVES WARDA MEETINGS STOP DIFFICULT  
MAKE COMMITMENT ON DATE DISCUSSION RECOMMENDATION COULTER MISSION  
AS AGENDA SUBJECT TO APPROVAL BY DIFFERENT WARDA BODIES  
STOP SUGGEST GRAVES ATTEND ADVISORY COMMITTEE AND GOVERNING COUNCIL  
CANNOT ATTEND ALL DISCUSSIONS SCIENTIFIC COMMITTEE AS LAST DAY  
ONLY FOR PREPARATION AND ADOPTION REPORT STOP REGARDS  
DIOUF WARDA

INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

G11

**OUTGOING WIRE**

NOV 13 1974  
COMMUNICATIONS SECTION

~~15~~

TO: DIOUF  
WARDA  
MONROVIA

DATE: NOVEMBER 13, 1974

CLASS OF SERVICE: LT / BWA

Ext. 3592

COUNTRY: LIBERIA

TEXT:  
Cable No.:

GLAD TO  INFORM YOU FOLLOWING RECENTLY CONCLUDED CONSULTATIVE GROUP MEETING THAT DONORS HAVE PLEDGED TO PROVIDE 575 THOUSAND US DOLLARS TO WARDA IN 1975 FOR ITS W-1 PROGRAM. RELEASE OF FUNDS CONDITIONAL ON SATISFACTORY PROPOSALS FOR RECONSTRUCTING RESEARCH AND FINANCIAL MANAGEMENT PROCEDURES. LETTER FOLLOWS

REGARDS

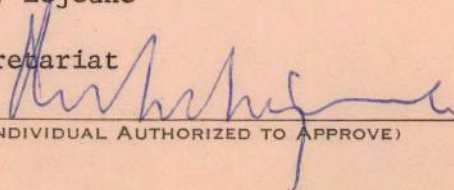
LEJEUNE

**NOT TO BE TRANSMITTED**

AUTHORIZED BY:


NAME Michael L. Lejeune

DEPT. CGIAR Secretariat

SIGNATURE   
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

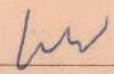
CLEARANCES AND COPY DISTRIBUTION:

  
CG/HG/MLL:mcj

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(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: 



INTERNATIONAL DEVELOPMENT ASSOCIATION

INTERNATIONAL RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE CORPORATION

Nov 13 8 32 PM 1974

COMMUNICATIONS SECTION

TO: BOUT WABA MONROVIA

COUNTRY: LIBERIA

TEXT Cable No.

DATE: NOVEMBER 13, 1974

CLASS OF SERVICE

IT / EXT. 3532

GLAD TO INFORM YOU FOLLOWING RECENTLY CONCLUDED CONSULTATIVE GROUP MEETING THAT DONORS HAVE PLEDGED TO PROVIDE 575 THOUSAND US DOLLARS TO WABA IN 1975 FOR ITS W-1 PROGRAM. RELEASE OF FUNDS CONDITIONAL ON SATISFACTORY PROGRESS FOR RECONSTRUCTING RESEARCH AND FINANCIAL MANAGEMENT PROGRAMS. LETTER FOLLOWS

REGARDS

LEWIS

NOT TO BE TRANSMITTED

AUTHORIZED BY

NAME

Michael L. Johnson

DEPT

CLEAR SECRETARIAL

SIGNATURE

[Handwritten signature]

REFERENCE

ORIGINAL (File Copy)

CLEARANCE AND COPY DISTRIBUTION

CO HELM.Lancj

[Handwritten initials]

G11  
415

November 13, 1974

Mr. Peter Daniells  
USAID/Monrovia, Liberia  
American Embassy  
Monrovia, Liberia

Dear Peter,

Harold Graves will be attending some of the WARDA meetings in Ibadan, so I shall not be there.

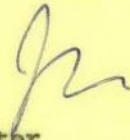
Perhaps you can let him know what is happening about the training program and whether you have managed to persuade WARDA to prepare a properly planned program. Also we will be interested in knowing of developments at Rokupr.

I don't know if anything more is happening between IDRC, CIDA and USAID about Mopti, but perhaps I will hear fairly soon from IDRC. If you have some information from your side, you could perhaps let Harold know.

Hope the assignment goes well.

With best regards.

Sincerely,



John K. Coater

JKC/cm





# Record Removal Notice

<b>File Title</b> CGIAR - G-11 - West Africa Rice Development Association (WARDA) - Correspondence 72/74-02		<b>Barcode No.</b>  1761939		
<b>Document Date</b> 13 November, 1974	<b>Document Type</b> Telex			
<b>Correspondents / Participants</b> To: Graves From: ILCA				
<b>Subject / Title</b> Transfer of funds to ILCA account				
<b>Exception(s)</b> Financial Information iv				
<b>Additional Comments</b>		The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group.		
		<table border="1"><tr><td><b>Withdrawn by</b> Sherrine M. Thompson</td><td><b>Date</b> March 26, 2021</td></tr></table>	<b>Withdrawn by</b> Sherrine M. Thompson	<b>Date</b> March 26, 2021
<b>Withdrawn by</b> Sherrine M. Thompson	<b>Date</b> March 26, 2021			



G 11  
~~HS~~

**OUTGOING WIRE**

TO: ALBRECHT  
TROPFOUND  
IKEJA

DATE: NOVEMBER 12, 1974

CLASS OF SERVICE: ~~TELEX~~ ~~RELEX~~ **LT/RCA**

Ext. 3592

COUNTRY: NIGERIA

TEXT:  
Cable No.:

EXPECTING ATTEND PARTS OF WARDA MEETINGS IN CONNECTION WITH RECOMMENDATIONS OF COULTER MISSION AND WOULD APPRECIATE YOUR ARRANGING HOTEL OR OTHER ACCOMMODATIONS IBADAN FROM NIGHT OF NOVEMBER TWENTY SIX THROUGH DECEMBER THREE. WOULD BE GRATEFUL IF YOU ALSO COULD MAKE AND NOTIFY ME OF ARRANGEMENTS TO TALK IN LAGOS ON NOVEMBER 25 OR 26 WITH BUKAR SHAIB OR HIS DESIGNEE CONCERNING MATTERS ARISING FROM NIGERIAN DECISION TO JOIN CONSULTATIVE GROUP NAMELY ALLOCATION OF THEIR FUNDS TO INDIVIDUAL CENTERS AND PROCEDURAL ASPECTS OF FUND TRANSFERS ETCETERA. WHILE I AM IN IBADAN WOULD ALSO BE GLAD TO TALK WITH YOU ABOUT YOUR BUDGET PICTURE FOR 1975. REGARDS.

GRAVES

**NOT TO BE TRANSMITTED**

AUTHORIZED BY:

NAME Harold N. Graves, Jr.

DEPT. CGIAR Secretariat

SIGNATURE *Harold N. Graves, Jr.*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE: HGraves : apm

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(IMPORTANT: See Secretaries Guide for preparing form)

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NOV 15 10 52 AM 1974

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Checked for Dispatch: *[Signature]*



INTERNATIONAL FINANCE CORPORATION

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

OUTGOING WIRE

DATE NOVEMBER 12, 1974

TO: ALBERT TROPHOND IKLA

LT/RGA

CLASS OF SERVICE

Ref. 2522

COUNTRY: NIGERIA

TEXT: Cable No.

EXPECTING ATTEND PARTS OF WASHA MEETINGS IN CONNECTION WITH RECOMMENDATIONS OF COUNCIL MISSION AND WOULD APPRECIATE YOUR ARRANGING HOTEL OR OTHER ACCOMMODATIONS IN IBAHA FROM NIGHT OF NOVEMBER TWENTY SIX THROUGH DECEMBER THREE. WOULD BE GREATLY IF YOU ALSO COULD MAKE AND NOTIFY ME OF ARRANGEMENTS TO TALK IN LAGOS ON NOVEMBER 25 OR 26 WITH BARRAR SHAIS OR HIS DESIGNEE CONCERNING MATTERS ARISING FROM NIGERIAN DECISION TO JOIN CONSULTATIVE GROUP MAINLY ALLOCATION OF THEIR FUNDS TO INDIVIDUAL CENTERS AND PROCEDURAL ASPECTS OF FUND TRANSFERS. WHILE I AM IN IBAHA WOULD ALSO BE GLAD TO TALK WITH YOU ABOUT YOUR BUDGET PICTURE FOR 1975. REGARDS.

GRAVES

NOT TO BE TRANSMITTED

COMMUNICATIONS SECTION

Nov 12 10 25 PM 1974

DISPATCHED

AUTHORIZED BY:

NAME: Harold R. Graves, Jr.

POST: CGTAR Secretariat

*Handwritten signature*

SIGNATURE

INITIALS OF INDIVIDUAL AUTHORIZED TO APPROVE

Graves: qpm

REFERENCE

ORIGINAL (File Copy)



*GU*  
*[Handwritten signature]*

**OUTGOING WIRE**

TO: DIOUF  
WARDA  
MONROVIA

DATE: NOVEMBER 11, 1974

CLASS OF  
SERVICE: LT

Ext. 2765

COUNTRY: LIBERIA

TEXT:  
Cable No.:

AM PROPOSING TO SEND HAROLD GRAVES TO WARDA MEETINGS BEGINNING AT THE END OF THIS MONTH FOR DISCUSSION OF RECOMMENDATIONS IN COULTER MISSION REPORT. WOULD PROPOSE HE BE IN IBADAN FOR LAST DAY OF SCIENTIFIC COMMITTEE MEETING, ALL THE ADVISORY COMMITTEE MEETING, AND FIRST TWO DAYS OF COUNCIL MEETING ON THE PREMISE THAT THE MEETING AGENDAS COULD BE ARRANGED SO THAT THE COULTER RECOMMENDATIONS WOULD BE DISCUSSED WITHIN THOSE DAYS. WOULD APPRECIATE YOUR CONFIRMATION OR ALTERNATIVE SUGGESTION AS QUICKLY AS POSSIBLE.

REGARDS

LEJEUNE

**NOT TO BE TRANSMITTED**

AUTHORIZED BY:

NAME Harold N. Graves, Jr.

DEPT. CGIAR Secretariat

SIGNATURE *Harold N. Graves, Jr.*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

CLEARANCES AND COPY DISTRIBUTION:

HG:mcj

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(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *[Signature]*

SECTION COMMUNICATIONS  
NOV 11 10 33 AM 1974

INTERNATIONAL DEVELOPMENT  
ASSOCIATION

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE  
CORPORATION

OUTGOING WIRE

TO: DIOUF  
WARDA  
MONROVIA  
  
COUNTRY: LIBERIA  
  
TEXT:  
Cable No.:

DATE: NOVEMBER 11, 1974  
CLASS OF SERVICE: LT  
Ext. 2762

AM PROPOSING TO SEND HAROLD GRAVES TO WARDA MEETINGS BEGINNING  
AT THE END OF THIS MONTH FOR DISCUSSION OF RECOMMENDATIONS IN COUNCIL  
MISSION REPORT. WOULD PROPOSE HE BE IN LIBERIA FOR LAST DAY OF SCIENTIFIC  
COMMITTEE MEETING, ALL THE ADVISORY COMMITTEE MEETING, AND FIRST TWO  
DAYS OF COUNCIL MEETING ON THE PREMISE THAT THE MEETING AGENDAS COULD  
BE ARRANGED SO THAT THE COUNCIL RECOMMENDATIONS WOULD BE DISCUSSED WITHIN  
THOSE DAYS. WOULD APPRECIATE YOUR CONFIRMATION OR ALTERNATIVE SUGGESTION  
AS QUICKLY AS POSSIBLE.  
REGARDS  
LEJUNH

NOT TO BE TRANSMITTED

COMMUNICATIONS SECTION  
NOV 11 10 33 PM 1974

CGIAR Secretariat  
DISPATCHED

AUTHORIZED BY:  
NAME: Harold N. Graves, Jr.  
DEPT:  
SIGNATURE:  
REFERENCE:

CLEARANCE AND COPY DISTRIBUTION

HG:mc]

For use by Communications Section

ORIGINAL (file Copy)

(IMPORTANT: See Secretary's Guide for preparing form)

Checked for Dispatch



G 11  
~~HS~~

November 5, 1974

Dear Roger:

You will now have seen, I hope, a copy of our report on our visit to WARDA -- Ralph received a copy either before or during the CG meeting.

I have just had some discussions with USAID who will be providing staff for Rokupr and also helping in the training program of WARDA. AID are anxious to know of ODM proposals for Rokupr, so I promised to find out. Thus a copy of your report would be welcome here.

There is another point that has come up in discussions with Diouf, with AID and with the Canadians, and that is the possibility of helping WARDA do something at Mopti in Mali. All are agreed that something should be done and that joint efforts are needed to do it. Diouf himself has suggested that as a first step, two or three Malians ought to have an intensive course in English prior to sending them to IRRI for a six-month course. U.K. would be an appropriate place for this and I promised Diouf I would enquire about courses, timing, costs, etc. Could you provide this type of information, please?

With best regards,

Yours sincerely,

John K. Coulter

Mr. Roger Smith  
Overseas Development Ministry  
Eland House  
Stag Place  
London SW1H 5DH  
England

JKCoulter:apm

COPY

OFFICIAL DOCUMENTS

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

Cable Address - INTBAFRAD

INTERNATIONAL DEVELOPMENT ASSOCIATION

Cable Address - INDEVAS

1818 H Street, N.W., Washington, D. C. 20433, U.S.A.

Area Code 202 • Telephone - Executive 3-6360

*Liberia  
op. gen. West Africa Rice  
Dev.*

G 11

RECEIVED - 6 NOV 1974 2002

October 31, 1974

Mr. Jacques Diouf  
Executive Secretary  
West Africa Rice Development Association  
P. O. Box 1019  
Monrovia, Liberia

Dear Mr. Diouf:

I refer to the informal exchanges of views between yourself and Mr. Roger Rowe and other members of my staff about possible areas of co-operation between the West Africa Rice Development Association (the Association) and the World Bank Group. The purpose of this letter is to record our understanding of the areas and manner in which our institutions would co-operate.

1. The Association and the World Bank Group will provide each other periodically with a list of rice projects being identified, prepared, appraised or financed by them in countries which are members of the Association.
2. The Association and the World Bank Group will periodically exchange findings, reports and studies of a general nature prepared by them concerning rice cultivation.
3. In its identification, preparation, appraisal and supervision of rice projects in countries which are members of the Association, the World Bank Group from time to time may wish to supplement the work of its own staff by that of experts of the Association. Subject to such limitations as may be imposed on it by its other work and staff resources, the Association undertakes to make such experts available. Salaries of experts made available by the Association pursuant to this paragraph will continue to be paid by the Association during the period of their assignment to the World Bank Group on the same basis as expenses incurred by its own staff on such assignments.
4. The Association in the identification, preparation, appraisal, implementation and supervision of rice projects in its member countries from time to time may request the assistance

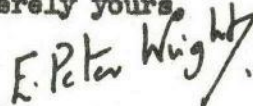


of World Bank Group staff. Subject to limitations of workload and availability of staff, the World Bank Group agrees to assign members from its staff for this purpose. The provision of services by Bank staff will be without charge to the Association.

5. It is understood that nothing contained herein affects the grant made by the International Development Association in support of the Association's field trial program in 1974 or will affect grants which may be made in the future by the International Development Association to the Association in support of programs approved by the Consultative Group on International Agricultural Research.

If the foregoing correctly reflects your understanding, I should be grateful if you would sign the form of confirmation on the enclosed copy of this letter and return such copy to me.

Sincerely yours,




E. Peter Wright  
Acting Regional Vice President  
Western Africa

CONFIRMED:

WEST AFRICA RICE DEVELOPMENT ASSOCIATION

By:

  
\_\_\_\_\_  
Executive Secretary

13 November 1974  
Date

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October 30, 1974

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WASHINGTONDC(USA)

Distribution: Mr. Graves  
Agriculture & Rural  
Development  
Mr. Collier ✓

GRAVES FURTHER REURCAE PROPOSE USING THREE HUNDRED FIFTY THOUSAND  
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STOP LETTER FOLLOWS

CUMMINGS CRISAT SECUNDERBAD

COL LT

Mr Graves  
I am not well informed  
of the issue and would be  
grateful to learn about it.  
Is any action required?



G 11

Mr. Lejeune

October 29, 1974

J. K. Coulter

Visit to UNDP, New York, 24 October 1974

Mr. Havord, Senior Adviser, UNDP, had invited me to visit him for discussions on UNDP's role in WARDA and I was able to do so whilst returning from IITA, Nigeria.

Present at the meeting were: C. Campaigne (Ex Res Rep, Liberia), G. Havord (Senior Technical Adviser), C. Lamuniere (Chief, Div. 1, West Africa), W. Mashler (Director, Global Projects), V. Okurwosa (Reg. Bur., Africa), J. Saunders (Dep. Director, Reg. Bur., Africa) and H-C von Sponeck (Reg. Projects Africa Bur.).

UNDP had just received copies of the Coulter/Ruddy report on WARDA so discussion centered around the proposals in that. UNDP are very keen to see WARDA succeed and would continue support of the organization whether it received CG blessing or not. Such strong support has obviously political motivation; it was suggested that west African countries had seriously questioned the sincerity of donors in helping the region, because of various disagreements on Sahelian drought relief. To abandon WARDA would confirm these countries in their belief that such donors lacked sincerity.

UNDP would therefore support projects for strengthening WARDA, and for a program which correlated and coordinated work on rice in West Africa. At the same time they felt that support to national programs, not through, but alongside WARDA, might be necessary. They recognized the need, however, to avoid duplication wherever possible. It was suggested that UNDP could also provide infrastructure support, for example in the case of Mopti in Mali where the need for a well-equipped station was recognized but where no single donor could fund the whole operation.

Dissatisfaction was expressed with the UNDP/FAO/IITA operation at Rokupr, Sierre Leone. The long time lag in getting the project operational is blamed on IITA (IITA blames FAO). The staffing at Rokupr illustrates the problems of coordination for the station will have three rice scientists on the FAO/IITA project, two on an ODA project, one on a USAID project whilst the Director of the research station has now joined WARDA.

A UNDP project supports part of the administrative and development departments of WARDA. This project finishes in June 1975 and will then be ~~renewed~~. If CG endorses support for WARDA, then we should be kept informed of UNDP proposals for continuing support.

JKCoulter:apm

#5

~~11~~  
G11

October 21, 1974

Dear Gordon,

Oct 17/74

I enclose a draft of the report on WARDA written with Mike Ruddy. We are awaiting Rene Devred's contribution but we don't expect any major changes based on this.

Because of the lack of time the report will be sent to members of the Consultative Group in its present form, so that they will have something before them at the October 30-31 meeting.

I look forward to discussing our findings on October 24.

With best regards,

Yours sincerely,



John K. Coulter

Dr. Gordon Hayford  
United Nations Development  
Programme  
866 United Nations Plaza  
New York 10017

Enclosure

JKCoulter:ia

145



G 11

October 21, 1974

Dear Guy,

During our meeting in London you asked about WARDA. I enclose a copy of a draft report. This may be circulated to members of the Consultative Group in time for the October 30-31 meeting but this has to be cleared.

Meanwhile, perhaps you could treat this as your personal copy on which I would be grateful to have your comments.

With best regards,

Yours sincerely,

John K. Coulter

Dr. Guy Camus  
Director General  
Office de la Recherche Scientifique  
et Technique Outre-Mer  
24 Rue Bayard  
75008 Paris  
France

Enclosure

JKCoulter:ia

HS

~~AS~~ G11  
October 21, 1974

Dear George,


During our meetings in Washington you asked if I could send you a copy of my report on WARDA.

A draft is enclosed; no doubt it will require some additional polishing but due to shortage of time we are trying to get this to Consultative Group members in time for the October 30-31 meeting.

I presume that CIDA will get one eventually but meanwhile, perhaps you could treat this as your personal copy in which I should like to have any comments.

With best regards,

Yours sincerely,

  
John K. Coulter

Dr. G. Dion  
U.N. Programmes Division  
Canadian International Development  
Agency  
Sir Richard Scott Building  
191 Laurier Street  
Ottawa 4, Ontario  
Canada

Enclosure

JKCoulter:ia



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INCOMING CABLE RECEIVED

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Distribution: *CF*  
Mr. Cheek  
Agriculture & Rural Dev. *CJ*

Oct 19 8 54 AM 1974

COMMUNICATIONS SECTION

Oct. 18, 1974

LTF

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WASHINGTONDC

DIOUF UNFORTUNATELY OUT OF MONROVIA AND NOT AVAILABLE FOR  
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OF GOVERNING COUNCIL MEETING IN DECEMBER STOP  
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~~GOL 1975~~

NOVEMBER TWENTY

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PAGE/2

*Carol -*  
*Will you please*  
*note the 1974*  
*dates mentioned,*  
*since we may*  
*want to do one*  
*more issue of*  
*the 1974*  
*calendar.*

*Agreed with*  
*Cheek 11/5/74 that*  
*calendar of events*  
*issued Oct. 1, 1974*  
*will be last for 1974.*  
*Carlos*

*Hand*

*Carroll/Carroll*

FIVE TO TWENTY SEVEN COMMA  
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COMMUNICATIONS SECTION

Distribution:

Mr. Cheek

Agriculture & Rural Dev.

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PAGE 2

FIVE TO TWENTY SEVEN COMMA

ADVISORY COMMITTEE NOVEMBER TWENTY EIGHT TO THIRTY AND GOVERNING

COUNCIL DECEMBER TWO TO FIVE

DIIRIL AW

*Rowe/Zuckerman*

*Handwritten notes and signatures, including 'Camp' and 'Nov 1975'.*



CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

1818 H St., N.W. Washington, D.C. 20433 U.S.A.  
Telephone (Area Code 202) 477-3592  
Cable Address - INTBAFRAD

G11

October 17, 1974

TO: Members of the Consultative Group  
FROM: Executive Secretariat  
SUBJECT: WARDA -- Report of Secretariat Mission

1. Attached is the draft report of a mission which visited WARDA in September 1974 as a result of the discussions during the 1974 International Centers Week on WARDA's program and operations. The report "Proposals for Strengthening the Research and Financial Management of the West Africa Rice Development Association" is intended as a basis for discussion of WARDA under Item 2b of the Provisional Agenda for the Consultative Group meeting to be held on October 30-31, 1974.

2. The report is an interim one in that, while it is based on the joint field work and discussions of the three mission members, there has not been time to clear a final text with the Secretariat of the Technical Advisory Committee which was represented by Mr. Devred. It is circulated now in the interest of helping Consultative Group members reach a decision on financing for WARDA in 1975. The text has also been sent to the TAC Secretariat and to the Chairman of TAC, Sir John Crawford, who will attend the Consultative Group meeting.

Attachment

PROPOSALS FOR STRENGTHENING THE  
RESEARCH AND FINANCIAL MANAGEMENT  
OF THE  
WEST AFRICA RICE DEVELOPMENT  
ASSOCIATION (WARDA)

DRAFT REPORT OF THE SECRETARIAT MISSION

(J. K. COULTER, SCIENTIFIC ADVISER, C.G. SECRETARIAT,  
M. E. RUDDY, REPRESENTING THE PROGRAMMING AND BUDGETING  
DEPARTMENT OF THE WORLD BANK, AND  
R. DEVRED, REPRESENTING THE TAC SECRETARIAT)

October 17, 1974



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Training

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Management in WARDA

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Extension

The Financial Management

Recommendations for Strengthening the Financial Management  
of WARDA

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- II - Medium-term Work Program
- III - Participating Countries
- IV - Terms of Reference for Research Manager
- V - "Imprest" Report on field trial costs
- VI - Auditor's Statement as of September 30, 1973
- VII - Draft Audit Report as of December 31, 1973
- VIII - System of Budget Reports
- IX - Internal Financial Reports
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## SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

### CONCLUSIONS

1. Rice in West Africa is grown over a very wide range of environments and in a great variety of farming systems.
2. Any one station can cover only a very limited part of these conditions so that at least five adequately staffed research stations are needed to carry out adaptive research.
3. These stations would investigate local weed, pest, disease, soil fertility and water problems and adapt IRRI and IITA materials and production techniques to overcome these problems.
4. Several of the national programs in the area are under-staffed, under-equipped and with large requirements for research on other crops to undertake adequate programs on rice. Thus a cooperative program directed by experienced researchers is likely to make more progress than a series of un-coordinated national programs.
5. The Association has now been functioning for nearly three years and experience to date shows that certain changes are necessary, especially restructuring of the management of research, budgeting and training functions. Given time to carry out these actions, WARDA should be in a position to make substantial contributions to rice production techniques in the region.

### RECOMMENDATIONS

1. WARDA should appoint a research manager with adequate experience in international agricultural research.
2. The research manager and the research coordinator should develop an integrated plan showing priorities for research, staffing patterns and budgetary requirements for an overall program which would eventually integrate the present loosely defined W-1 to W-4 programs. Such a plan must take into account such constraints as the availability of staff, the availability of finance, the need to establish the scientific and financial soundness of the organization, the need to build up infrastructures at some of the stations and the logistics of organizing a research program over such a wide geographic area. This program should indicate the benefits to the individual countries in the region as well as to the region as a whole.
3. In 1975 the CGIAR should continue its support for WARDA at about the 1974 level. Such support would be used to maintain the more important parts of the W-1 program and finance the appointment of the research manager.



4. WARDA should develop the concept of an annual approved budget and a related financial plan. The budgeting should be linked to the short and medium term internal planning and programming of the institute. The Governing Council should be presented with an annual budget that shows WARDA's proposed operations and costs for the year ahead. For these purposes, the budget format in use throughout the system of international centers should be adopted.

5. Budget management responsibilities should be assigned to program managers.

6. The training program for staff to operate in rice research and production systems in the region should be critically examined. The need for different types of training, the availability of staff with the requisite basic training, the need for facilities and staff, taking into account those already present in the region should be assessed. The cooperation of IITA and IRRI in overall planning of this program is strongly recommended.

7. The role of the various committees should be re-assessed with a view to reducing their number. Provided that the re-structuring of the management of research and budgeting is done, the Steering Committee could be allowed to lapse and the Scientific and Technical Committee strengthened by the addition of two scientists from outside the region, one of whom might act as chairman.

8. The progress in carrying out these recommendations should be assessed in mid-1975.

PROPOSALS FOR STRENGTHENING THE RESEARCH AND FINANCIAL MANAGEMENT  
OF THE  
WEST AFRICA RICE DEVELOPMENT ASSOCIATION (WARDA)

Draft Report of the Secretariat Mission

INTRODUCTION

1. The mission, consisting of J. K. Coulter, Scientific Adviser, Consultative Group Secretariat, and R. Devred (FAO) representing the TAC Secretariat, arrived in Dakar on September 15 and left Monrovia on September 29. They were joined by Mr. M. E. Ruddy, representing the Programming and Budgeting Department of the World Bank, in Monrovia on September 23. The mission visited rice research stations in Senegal, The Gambia, Mali and Liberia; details of the mission's itinerary are given in Annex I.
2. Although rice consumption in West Africa is small compared with that in Asia, it is still a very important crop in most parts of the region and whilst comparable ecological zones exist in Asia there are very significant differences in the importance of these. Thus, mangrove swamps are important in Sierra Leone, The Gambia and Senegal; semi-flooded, inland valley swamps with very poor soils, some with high iron toxicity, are important in Sierra Leone, The Gambia and Nigeria. Non-flooded, rain-fed rice is grown in most countries of the region. Irrigated areas in Senegal and The Gambia have cool winters and hot summers with high insolation and low rainfall, whilst other countries have heavy rainfall, with one or two peaks and with much cloud cover during the growing season. Rice production systems in West Africa are often quite different from those in Asia for the cultivation of the crop is closely allied with farming of dry-land crops.
3. There is no doubt therefore that a great deal of adaptive research is needed on the IRRI materials and on the production techniques which have been developed there. In larger rice producing countries this is obviously part of the national program but the scattered nature of production in West Africa and the limited national programs fully justify a cooperative regional effort, provided such an effort has an appropriate structure for planning and managing the budgeting and research programs.
4. Following the decision of the international conference in September, 1969, to create the WARDA organization, a number of meetings and seminars were held and consultants helped identify problems and list priorities in order to institute research programs. In March, 1971, these were stated in a medium-term work program (Annex II) and were subsequently compressed into 14 research projects for presentation to the first session of the Governing Council in May, 1972. At the instance of TAC, further discussion between the Executive Secretary of WARDA and the representatives of IRRI, IITA and IRAT led to the decision to have a research program consisting of coordinated trials, referred to as W-1, and three special research projects, W-2, W-3, and W-4.



5. The political, scientific, technical and financial management of this unique organization is shared by four committees whose mandates are executed by the Executive Secretary. These consist of:

- (1) the Governing Council, comprising one member from each of the 14 participating countries listed in Annex III; such members are usually at the Director of Agriculture or Ministerial level.
- (2) the Scientific and Technical Committee consisting of five persons from the participating countries at the Director level and two outside scientists.
- (3) the Advisory Committee with six scientists from within the region, some concerned with rice research, and 11 from outside the region representing donors or potential donors; IRRI, IRAT and IITA are also represented.
- (4) the Steering Committee (set-up at the instance of the Consultative Group) consisting of 8 scientists from within and outside the region.

6. In general terms, the Governing Council has responsibility for the overall policy of WARDA, the Scientific and Technical Committees endorses the research program, the Advisory Committee the financial program, and the Steering Committee is intended to over-see the conduct of the research program. The Council and its Committees meet at least once per annum. Obviously, such a large management structure is expensive and WARDA's budget for travel of headquarters staff and meetings is \$65,200 for 1974.

7. The WARDA program is organized in two action departments: research and development. The development department initially contained the training section but this has been transferred to the research department. Our mission was concerned only with the latter department.

#### THE RESEARCH PROGRAM

8. Initially a very large research program was put forward for WARDA's activities but eventually this was cut down to four components:

- (a) W-1, coordinated variety and fertilizer trials;
- (b) W-2, varietal improvement;
- (c) W-3, soil fertility; and
- (d) W-4, plant protection.

#### The W-1 Program

9. The W-1 program is the only program concerning the Consultative Group at the moment, which provided \$575,000 in 1974 and which has been requested to provide \$790,000 in 1975. WARDA's own documentation on the W-1 program has already been circulated to members of the Consultative Group and of TAC.

Basically the fertilizer trials use a standard design allowing the inclusion of two locally recommended fertilizer dressings and are laid down at appropriate stations for rainfed, irrigated, deep-flooded and floating rice throughout the region. The varietal trials cover the same ecological regions and use short, medium and long duration varieties; these are chosen from between 60 and 70 varieties, both local and introduced into the region. Standard conditions for experimental design, planting techniques, growth and yield recording, etc., are laid down so that results from such sites are comparable.

10. The work is coordinated centrally in Monrovia where there is a research coordinator, a soil fertilizer trials coordinator, a varietal improvement coordinator, and facilities for the statistical analysis of the results.

11. At each site there are two monitors or field assistants who have undergone the three weeks training program by WARDA in Monrovia and who supervise the day-to-day work on the trials. At some stations they are under the direct control of a research scientist, at others they work without such day-to-day supervision and may be visited only at infrequent intervals by a research scientist.

12. Up to the present all the trials have been on research stations; WARDA does not have trials in farmers' fields. Twenty-eight research or experimental stations, including IITA, in 12 countries are taking part in the project. This mission was able to visit seven of these sites in Senegal, The Gambia, Mali and Liberia. It is probable that the conclusions drawn from the visits to these sites would be generally applicable.

13. From these visits we have concluded that the trials are being laid out and conducted according to the directions given in the program. Designs are followed carefully, the trials are properly labeled and cultural conditions are good. We conclude therefore that the results of the trials at the experimental stations, where there is a scientist in charge, have good reliability.

14. We do not have such faith in the results from sites where there is no scientist in charge. At one such site, Richard Toll, the fertilizer trial had to be resown because of poor irrigation management by the field assistant. We were not able to visit the Kogoni and Sicasso stations in Mali which are supervised only by field assistants with infrequent visits from the research scientist at Mopti, 700 km distant; we feel that adequate supervision cannot be given at such long range.

#### Advantages of the W-1 Program

15. Although the success of the W-1 program has depended on the presence of scientists at the stations rather than control exercised from headquarters in Monrovia, the program has nevertheless had a useful impact.

- (a) Considering the problems involved in financing the program, the scattered nature of the trials and the geographic area covered, the program has got off to a good start.
- (b) It has introduced, to the government policy makers, the idea that cooperation in a region with small scientific resources is beneficial.



- (c) It has brought the rice scientists in the region together so that they can meet and discuss mutual problems.
- (d) It has provided training for a number of assistant grade staff in the conduct and management of field experiments on rice. This experience will be invaluable for new programs including those in farmers' fields.
- (e) It has emphasized the need for considerable modification of the IRRI varieties if they are to be successful in West Africa. Perhaps the most striking example of the need for this is the destruction of IRRI varieties by blast in the rainfed conditions in Suacoco, Liberia, whereas locally selected varieties have shown almost total immunity.
- (f) It has emphasized the need for much adaptive research because of the wide range of climatic, soil and biological conditions in West Africa.

#### Problems in the W-1 Program

16. During the visits to the experiment sites a number of shortcomings were noted. Most of these should be remedied as the program develops, but they are recorded here to indicate the problems which the program has encountered.

- (a) Most stations have had fertilizer trials for some years and the response to fertilizers is already generally known. A standard trial cannot provide sufficient flexibility to allow for the wide range of fertilizer needs between say the high sunshine areas of northern Senegal and Mauretania and the low sunshine areas of Liberia and Sierra Leone. The value of standard fertilizer trials carried out over a wide range of ecological conditions is limited and whilst these trials have been useful in introducing WARDA to the region this program should be restructured in the near future.
- (b) Whilst the varietal trials do serve a useful purpose in showing how rainfall, for example, can influence blast attack, the varieties cannot cover all the ecological areas; for example, cold tolerance for the winter crop is of major importance in Mauretania, northern Senegal and The Gambia, but of no interest elsewhere.
- (c) Scientists at some stations regard the trials as a rather unwelcome addition to their already over-loaded work program. In other words, they feel that they have had to use scarce resources on projects which they consider as having rather low priority. An example of this is the fact that a number of stations have brought in varieties from outside the WARDA program to include in their own programs. This problem can be overcome in the future by planning to have a more flexible program based on cooperation rather than complete coordination.

- (d) Seeds supplied by WARDA sometimes arrive late, in too small quantities, with poor germination and with mixed strains. Length of growing season was sometimes wrongly classified. These are problems which should be overcome as WARDA gets its seed treatment and distribution facilities, now nearly complete, into action. It should then be able to send out properly treated pure seeds in time for planting.
- (e) It has been stated that all imports of rice seeds into West Africa should go through the quarantine station at Ibadan. At the moment there is, in fact, a considerable amount of direct importation into countries of the region. This is not to say that such imports are irresponsible for the seeds come in accompanied by the appropriate phytosanitary certificates but it does suggest that, if WARDA is to take sole responsibility for importation and quarantine of rice seeds in the region, facilities will have to be greatly improved and the process speeded up. In this connection, funds for a glass house at Ibadan are being provided by WARDA.
- (f) The detailed measurements to be made at each trial, for example the grain to straw ratio, moisture content of grain, require space and facilities which some stations do not possess; these additional measurements put another burden on the limited resources of the research station.
- (g) In addition to paying the salaries of the two field assistants at each site, WARDA pays \$300 for each experiment. Some stations say that this is insufficient to cover costs of an experiment, but this is obviously a reflection of the way in which costs are calculated; by including additional overheads, higher costs per experiment can be shown. Some stations regard the WARDA trials as an additional source of revenue. The longer-term policy should be that the countries themselves finance the trials and pay the salaries of the field assistants; this should apply particularly to any trials being done outside the stations on the farmers' fields. The cost of the trials in 1974 was budgeted at \$275,000, i.e., about 50 per cent of the total W-1 WARDA budget. Recommendations for more stringent financial controls on the disbursements for these trials are given in the section on strengthening the financial management.
- (h) Problems of supervising these trials from headquarters in Monrovia have not been fully appreciated. It is beyond the resources of the present staff to make a useful visit to each station at critical times like planting, during the growing season and near harvest. Until a proper program for visits is set out, the amount of time involved and the work to be done in connection with these trials cannot be realistically assessed; this should form part of the overall research planning program.



- (i) A varietal testing program in the absence of a varietal improvement or breeding program is of limited value; hence the necessity to integrate this part of W-1 into the W-2 program.
- (j) Success of any program of coordinated or cooperative trials depends on the presence of competent scientists at experiment stations in the countries of the region. This gives rise to anomalous situations in which the stations which need the trials least do the best job whereas those stations with few scientific resources can do very little in the way of helping with the trials. Furthermore, several stations still depend heavily on expatriate scientists, whose position can change rapidly so that stations which are well supplied with scientists at one time can be without them a few months later. This will necessitate the strengthening of some stations, possibly under WARDA auspices. Where scientific supervision is weak, different types of trials may be necessary with reliance placed on quantity rather than quality.

#### TRAINING

17. This program has been transferred from the development department to the research department. WARDA has organized training at two levels:

- (a) A three-week course in Monrovia for the field assistants; these trainees then return to their own country and work in the W-1 program.
- (b) A six-month training program in rice production for trainees having a qualification equivalent to ingenieur de travaux, that is a middle grade agronomist.

18. For the first kind of training, WARDA has no control over the type of candidates and views were expressed at some research stations that such staff could be better trained on-site where they would thus be familiar with local problems. This would also alleviate the difficulty created by a common course whereby staff from some centers have to be released at a critical time in the research program in order to fit in with the course.

19. As regards the six-month training program, the first course was run at IITA and WARDA has requested that such courses take place annually. However, IITA, in view of its commitments for training in other crops, can offer only a course in alternate years. This has led WARDA to propose setting up facilities for the six-month training at its headquarters in Monrovia, but so far only the Kuwait Fund has provided finance (\$150,000) towards the establishment of these facilities.

#### RECOMMENDATIONS FOR STRENGTHENING THE RESEARCH MANAGEMENT IN WARDA

20. WARDA, because of the way in which it has been constituted, suffers not only from problems that any center encounters in trying to operate a program in an area where national research programs are generally weak, but also functions with an administrative structure which contains too many committees.

Initially such committees can undoubtedly contribute, but they are no substitute for scientists planning and operating a program in the field. Committees also exacerbate the difficulty of deciding on research priorities because each meeting tends to come up with new recommendations and new projects, themselves worthy, but impossible to institute with the existing resources. In spite of this, WARDA has managed to start a research program in the region; this is not a highly developed program but it is nevertheless an indication of what can be done. If WARDA were to be deprived of its role in research, then the centers, IRRI and IITA, would find it more difficult to operate effectively in this area.

21. The mission believes that there is a good case for re-structuring the research department of WARDA in such a way that it can play an increasingly important role in the region. This role may be defined as:

- (a) helping to strengthen the national research programs;
- (b) carrying out adaptive research in certain key centers where there are specific problems in rice production in the region;
- (c) collaborating closely with IRRI and IITA so that the more basic work of these centers can be modified effectively for improving rice production; and
- (d) organizing training activities for staff involved in both research and production so that the training is closely related to the problems of rice producing systems in West Africa.

22. The mission therefore suggests that the research program of WARDA be re-organized in such a way that the W-1 to W-4 programs can be integrated and that a set of priorities be worked out within this integrated program, taking into account the resources that are likely to be available from the donors who are contributing or propose to contribute to the research program of WARDA.

23. To do this effectively, WARDA will need to improve its program and budget process and recruit an experienced research manager for a period of at least two years to work with Dr. Will, the Research Coordinator. By doing so it can develop an integrated program, establish priorities, work out a modus operandi for coordinating with the international centers and ensure the recruitment of the right staff. The Centers, on their part, would work through WARDA rather than outside it. With this reorganization, it is hoped that WARDA would be given sufficient time to develop programs and to establish the confidence which the donors require before they will fully support such programs. The mission emphasized to the Executive Secretary of WARDA the importance of strengthening the scientific and budgeting capability of WARDA in order to attract donor finance. Terms of reference for the research manager are given in Annex IV.

24. The mission also emphasized the need for WARDA to devolve the responsibility for planning and budgeting the research program to the Research Coordinator so that he has adequate control over this program.

#### INTEGRATING THE W-1 TO W-4 PROGRAMS

25. Integration of these programs will have a high priority for the re-structured management. Amongst the problems requiring consideration are the following:



- (a) Adaptive breeding work. As outlined in Annex I, a considerable amount of breeding work is under way at several stations, but some important problem areas need additional resources. These include breeding for cold tolerance to give varieties which can be used in the winter period in northern Senegal, Mauritania and The Gambia and tolerance to iron toxicity. There is some good work on the latter at Suakoko in Liberia; continuation of this work is important. Breeding for tolerance to salinity and acidity will be done at Rokupr. This work should be of value in Sierra Leone, Guinea, The Gambia and southern Senegal, and parts of the Senegal River Valley. The program for dryland, rainfed rice at Bouaké and IITA should take care of the major problem of breeding for resistance to blast. An area of great importance is in Mali where deep water and floating rices are needed. At the moment there is little capability for rice breeding at the Mopti station and a plant breeder should be stationed there as part of the overall program.
- (b) Weed control. Major problems in weed control are those of wild rice in northern Senegal and Mauretania, and weed problems in rainfed rice. As far as irrigated, flooded and swamp rice are concerned, the farmers themselves have systems to deal with weeds. The problem of wild rice in Senegal is important especially if mechanized cultivation is to be expanded. As far as weeds in rainfed rice are concerned, the trial at Sefa has shown that none of the presently available herbicides are as effective as hand-weeding. The use of hand-weeding depends on the amount of labor involved and a study of weeds in rainfed rice should include investigations on the farmers' labor inputs. Weed problems are location-specific, and research programs will need to be set up accordingly.
- (c) Soil fertility. The use of local rock phosphates should be investigated especially in the inland valleys where the soils are acid and very poor in phosphate reserves. So far soluble phosphates appear more efficient than the insoluble local rock phosphates but further investigations on the residual value of the latter would appear to be worthwhile. Another problem in soil fertility is the management of the acid sulphate soils which are common in Sierra Leone, Guinea and southern Senegal. So far the farmers' management system on these soils appears to be as good as anything the scientists can devise. The acidity can be controlled by using large dressings of lime, but this is uneconomic as it has to be imported. Other ways of managing these soils using leaching with rain water or sea water need to be devised.
- (d) Pests. Stem borers cause serious damage especially to floating rice. At present levels of production in the region, the best means of dealing with the pest problems is the breeding of varieties which are more tolerant than those presently available. In this connection, crossing Oryza glaberrima and Oryza sativa may produce some useful hybrids.

26. In integrating the W-1 to W-4 programs, the aim should be to make certain that some stations have enough scientific competence to cover one program well rather than trying to cover all the problems of rice production in West Africa. Thus it is desirable to build up a few good centers in the area. Richard Toll, Sefa and Djebilor in Senegal, Kaedia in Mauritania, Sapu in The Gambia, Mopti in Mali, Rokupr in Sierra Leone, Suakoko in Liberia, Bouaké in the Ivory Coast as well as IITA could be considered. These stations, with adequate staff and equipment, should be able to cover the major problems of rice growing in West Africa.

#### LINKAGES BETWEEN THE RESEARCH AND DEVELOPMENT DEPARTMENTS

27. WARDA has also an advantage, not available at other institutes, of a development department which is concerned with projects for developing rice throughout the region; this department should be able to inform the research department of WARDA where applied research is needed and where there are bottlenecks because of lack of knowledge and information. The development department could be particularly helpful to the research department by indicating ways in which the work of the latter could be made more effective and by defining farmers' attitudes to adoption of improved methods of production. The development department should also be able to quantify more clearly the major types of rice production and identify areas where progress is most likely to be made. This department should also be able to outline the training needs of the countries in the region and to convey these to the research department so that appropriate training programs can be organized as regards both the numbers requiring to be trained and the type of training needed.

#### EXTENSION

28. There is no doubt that there is even now a considerable gap between what has been done in the research stations and what the farmers are doing; and during visits to a number of research stations this gap was emphasized. Nevertheless, there will be an increasing need in the future to get the results of the research stations out to the farmers; at the moment this would not seem to be the role of WARDA but rather of the national research programs; nevertheless, WARDA may have to take some initiative in organizing ways of doing this; the training program whereby staff are being trained initially to work on research stations could be extended to train such staff for experimental and demonstration work in farmers' fields.

#### THE FINANCIAL MANAGEMENT

29. In its review of WARDA's financial practices, the mission considered its central task to be:

- (a) To assess the extent to which the financial management procedures in use would ensure that funds received from donors are well managed, and
- (b) To make specific recommendations if it felt improvements are needed.

Our assessment of the major elements of WARDA's financial management system (accounting and internal accounting controls; planning, programming and budgeting; and financial reporting - including the external audit report) are discussed in turn.



Accounting and Internal Accounting Controls

30. During its first year and a half of operations, WARDA's accounting office had more than its fair share of start-up problems. The first Chief of Administration and Finance, and the original Chief Accountant, were not able to organize and implement satisfactorily the "imported" FAO accounting system adopted by WARDA, nor were they able to establish basic budgeting procedures.

31. Following discussions with the external auditors (a Ghanaian firm) at the time of their first audit in the early spring of 1973, WARDA engaged a local Liberian public accounting firm to set up a more manageable accounting system. Recommendations for a new system were available in July 1973 and shortly thereafter work began on converting the accounts to the new system. This work was ongoing in October 1973 when the current Chief of Administration and Finance was appointed, under a UNDP grant, and he took additional steps to put WARDA's accounts in order. With the assistance of a staff member seconded from the Ghanaian auditing firm, work began on reconciling all bank statements since WARDA's inception and analyzing prior disbursements by project and source of funds for the purpose of reconstructing the accounts under the automated system developed by the Liberian public accounting firm. This work was completed only in mid-September 1974 just prior to the arrival of the mission.

32. As a result of these actions, WARDA now has a fully satisfactory system of accounting which (a) properly classifies and records transactions according to source of funds, project or activity, location of activity, and object of expenditure, and (b) is capable of meeting the basic needs of WARDA's management and donors for financial information.

33. Based on our review of the system of internal accounting controls and checks over the receipt and disbursement of cash, we believe that in general the procedures in use provide adequate safeguards and should ensure the integrity of accounting records. There is, however, one area of disbursements (advances on trials under the W-1 program) where the accounting procedures and controls need further attention. It is WARDA's practice to advance to national research institutions 75-80 per cent of expected field trial costs and require that the institutions account for these advances at the completion of the trials by submitting an "Imprest" Report (see sample attached as Annex V). In most cases, no supporting documentation is provided with the report and its acceptance by WARDA rests on the fact that a responsible official of the executing institution signs the report. Apart from the problem of suitable documentation for the report, it has proven difficult to get completed reports on time. Most of the reports reviewed by the mission were six months or more in arrears and incomplete (amounts advanced not shown, name of staff employed not provided, etc.). Reports for trials in one country are a year in arrears and still outstanding.

34. Since some \$275,000 or 50 per cent of the W-1 grant is being disbursed on trials, we believe it is necessary for WARDA to tighten its accounting procedures with respect to these disbursements. A number of possible steps were



discussed with the Chief of Administration and Finance and with the Executive Secretary, and these are outlined in the recommendations.

### Budgeting

35. Partly because the original financial officers lacked the capacity, and partly because the officers now in post have been preoccupied with sorting out the basic accounting records, WARDA does not as yet have an effective budgeting system. There is, however, a detailed set of tables showing the cost of staff and other requirements for each program or activity (the Secretariat, the Development Program and the Research Programs - W-1 through W-4), for the period 1974-78, but since important parts of most programs are not funded, or only partially funded, the tables show a combination of notional and "budgeted" costs. Moreover, the programs that are funded have elements in them for which the funding lapses at different time intervals. In consequence, the concept of an annual approved budget and a related financial plan is lacking. This was apparent from conversations with both the financial staff and the Executive Secretary; in describing WARDA's work program, actual (funded) operations were not always clearly separated from aspirations.

36. In practice, WARDA's management presents annually to its Governing Council, through the Advisory Committee of the Council, a detailed budget for the Secretariat (which is funded by the member states) and a description of the actual support received from various donors during the past year and amounts expected for the coming years. However, the presentation is narrowly focused; it does not present a total picture of WARDA's proposed program of work for the coming year nor does it put the budget year in the perspective of the longer term plan. Given the nature of the budget presentation, it seems that the Governing Council is not asked to judge or endorse the total budget on an annual basis and, consequently, the Council has no basis for assessing annual performance toward longer term objectives or cost performance against an approved budget.

37. In addition to the detailed budget for the Secretariat, WARDA provides potential donors with a detailed budget for programs they are asked to fund. Once agreement is reached with a donor, who seems to be able to influence or alter substantially the program being funded, the agreed budget is recorded in total in WARDA's accounts, but without regard to a specific financial year.

38. The mission regards the absence of a sound budgeting system, leading to an annual budget for all of WARDA's activities approved by the Governing Council, as a major weakness in WARDA's financial management system. Improved budgeting is a basic element in determining the level of support for WARDA by the Consultative Group.

### Financial Reporting

39. Because of problems with the accounting system, WARDA has not been able to prepare regular internal financial reports throughout 1974 (the last trial balance was prepared in November 1973). However, a trial balance through September 15, 1974, was in preparation at the time of our visit and from the end of September WARDA should not have difficulty in preparing some regular internal financial reports.



40. Since its inception, WARDA's external auditors (Issifu Ali and Company - a Ghanaian firm of Chartered Accountants) have prepared three reports:

- (a) a report dated December 4, 1973, to the Chairman of the Governing Council certifying to the total level of expenditure for the 22-month period ending September 30, 1973, (copy attached as Annex VI);
- (b) a report dated May 31, 1974; to the Executive Secretary commenting on the Association's accounts; and
- (c) a draft standard short-form audit report to the Governing Council, to be dated and signed when the accounts are adopted by the Council in November 1974, covering the first 25 months of WARDA's operations ended December 31, 1973. This report (copy attached as Annex VII) includes a standard balance sheet and statement of revenue and expenditure, as well as a more detailed schedule of expenditures showing staff and cost by major function.

41. As required under various grant agreements, WARDA provides periodic reports to individual donors accounting for charges to grants.

42. With respect to internal financial reporting and external reporting to individual donors, we believe that the accounting system now in use together with the system of budget reports outlined in Annex VIII, and described in the recommendations below, will be fully adequate.

#### RECOMMENDATIONS FOR STRENGTHENING THE FINANCIAL MANAGEMENT OF WARDA

43. During the visit, the mission discussed with the Executive Secretary of WARDA and his staff ways in which the financial management could be improved; such improvements should include the following:

- (i) Accounting and Internal Accounting Controls. The mission suggested that WARDA consider:
  - (a) Advancing less of the expected ("budgeted") cost of the W-1 trials and require more complete substantiation of disbursements before additional funds are released;
  - (b) Sending financial staff to visit individual stations where reports are not received within a reasonable period of time after the completion of trials; and
  - (c) having the finance staff, or a contracted local auditor, systematically visit field stations for the purpose of determining "standard costs" which could be used as a basis for fixed price contracts - half payable in advance and half payable at the completion of the trials.

(ii) Planning, Programming and Budgeting. The mission suggested that financial management problems could be corrected by establishing procedures that:

- (a) Formally link annual budgeting to the short and medium term internal planning and programming of the institution. With respect to this procedure we suggested that a formal mechanism be established for setting medium term goals for the institution. More specifically, we suggest that in July of each year the Executive Secretary distribute general guidelines to program managers outlining WARDA's current situation, priorities and likely constraints over the next two or three years, and call for the managers to submit programs of work that are responsive to WARDA's mandate and to the current guidelines. We further suggested that the financial staff be asked to price out the program of work proposed by managers, and in early September a formal program/budget review session be held with the program directors and the Director of Finance and Administration for the purpose of sizing the program and budget to be brought forward to the Governing Council for approval.
- (b) Provide the Governing Council with an annual budget that shows WARDA's proposed operations and costs for the year ahead and places this program of work and budget in the context of a retrospective and perspective time series. With respect to this requirement we strongly recommend that WARDA adopt the budget formats used throughout the system of international centers. In making this recommendation, we recognize the fact that WARDA is not strictly similar in structure and finance to the normal international centers, but we nevertheless believe that this form of presentation would provide relevant disclosure of WARDA's work to its governing body. Moreover, it has the added advantage of aligning WARDA's budget presentation with those of the international centers which will facilitate the CG's consideration of WARDA's requirements. In line with this recommendation, we have drawn up a set of budget tables (attached as Annex VIII) which we suggest WARDA use in presenting its 1975 budget to the Governing Council and as a supplementary document in presenting its 1976 budget for the W-1 program to the CG Group in March of 1975.
- (c) Assign budget management responsibilities to program managers. We suggest that once the annual budget is approved by the Governing Council, the amounts provided (that is, funded) be allocated by the Executive Secretary to program managers and that managers receive a regular report informing them of the provisions they are responsible for and charges and commitments against various allocations. Annex IX attached provides a sample set of reports that would adequately satisfy this recommendation and other requirements for internal financial reporting. In suggesting this particular system of internal reporting we understand that WARDA does not now have a commitment ledger and related procedures and that it would be some time, probably the middle of 1975, before commitment data could be included in these reports.



(iii) Financial Reporting. With respect to the report of the independent auditor, we believe that the terms of reference for the annual audit should be drafted or at least approved by the Advisory Committee of the Governing Council and that the format of the audit report conform with the budget presentation made to the Council. This procedure is in line with what is being done in the system of international centers. A suggested audit report format for WARDA is provided in Annex X.

October 17, 1974

ANNEX I

MISSION ITINERARY

1. Bambey, Senegal - September 16. M. Gora Bey

This station, though not concerned specifically with rice, is the central research station for Senegal and gives specialized support in the major disciplines. There is a program to study the physiology of drought tolerance in rice (M. Dancette). This is examining the drought sensitivity of some common varieties used for rain-fed cultivation. In addition rainfall probabilities at each of the research stations in Senegal are being studied so that drought tolerance can be related to the probable incidence of dry periods of varying lengths. There are no WARDA trials at this station.

2. Richard Toll, Senegal - September 17. M. Aubin

This station was started in order to support rice production in the Senegal River basin. There is now a large UNDP project (FAO/OMVS) working on the Senegal River basin study and this has an agronomic research component at Guédé, near Richard Toll and at Kaédi in Mauritania, where there is an IBRD project covering 6,000 ha.

Richard Toll is now being taken over for sugar cane production but 30 ha. have been left for WARDA's seed multiplication activities and the WARDA W-1 trials have been allocated 1/2 ha. All the Richard Toll research activities, on both rice and upland crops, are being transferred to Fenaye, 15 km east of Richard Toll but this site lacks buildings and equipment. The Senegal River basin is typical of only a small area of rice production in West Africa, but yields in summer can be very large, because of the high insolation. However, there is little to be gained from coordinated trials at either Richard Toll or Kaédi as the ecological conditions have little in common with those elsewhere in the region, except perhaps Sapu in The Gambia. Weeds, particularly wild rice, and cold tolerance for winter rice are the important problems. With the lack of facilities at Richard Toll and the fact that there is an UNDP agronomist at Kaédi it is suggested that these two stations could have a low priority in the W-1 program for the coming year.

3. Djebilor, Senegal - September 23. M. Arie

This station is concerned with developing mangrove swamps, with breeding swamp varieties, and with insect pests and soil fertility. There is a large program for introduction of varieties from within and from outside the region and there is also a crossing program to breed varieties for local conditions. An entomologist is studying rice pests, particularly stemborers and the possibilities of their biological control.



WARDA has fertilizer and variety trials and there is also one trial on insecticides. None of the varieties in the WARDA saline tolerance trial had survived the saline conditions (5 millimhos conductivity in the soil solution when the 21 day old plants were transplanted.)

The station has quite a large program of fertilizer trials which overlap many of the tests in the WARDA fertilizer trial. There are two other WARDA variety trials, one with short-term, one with medium-term varieties; as with the fertility trials however these variety trials cover much the same range of varieties as do those in the station's own program. In a discussion on the role of WARDA, the scientists at the station expressed the hope that individual scientists, participating in the program, would have more opportunities to attend meetings.

4. Sefa, Senegal - September 24. M. Pirot

This station is concerned with rain-fed rice and is representative of a large area of plateau land in the approximately 1,200 mm rainfall belt. Rice is grown in rotation with groundnuts and maize or millet. Desirable characters in selected varieties are short growing season and resistance to blast, though the virulence of blast appears much less severe than at Suakoko (Liberia). Weeds are a major problem, 60 man-days/ha. being required by the farmers for weeding. Cyperus rotundus, which is extremely deep rooting, (> 80 cm) on these soils is especially difficult. A herbicide trial showed that some of the herbicides destroyed the rice; hand-weeding was the only effective treatment. To develop a successful herbicide would require a good deal of investigation on timing of application as well as type of herbicide.

Amongst the varieties, the locally made cross, G-302, seemed to be as successful as any of the introduced varieties. Because of good rainfall distribution, crops are very promising this year and yields of up to 4 tons/ha are expected. Farmers' yields in the areas are of the order of 800-900 kg/ha. There is a strong response to fertilizer but leaching of N and K fertilizer is said to be severe. In the WARDA fertilizer trial the locally recommended mixture was about as good as any of the other treatments.

Because of its unimodal rainfall pattern the work on rain-fed rice at this station strongly complements the work at IITA with its bimodal rainfall pattern.

5. Jenoi, The Gambia - September 22. Mr. Janneh

This is a small station with no resident scientist. WARDA has only two variety trials, one medium-term, deep flooded, the other long-term, deep flooded, at this station where the need is for salinity tolerance. Rice is transplanted in late August-early September when the salinity has been diluted sufficiently to prevent damage. In the absence of varieties with adequate tolerance of salinity and deep water there is unlikely to be any response to fertilizers.

6. Sapu, The Gambia - September 22.

Mr. Ter Vrugt

As part of the IBRD project, the Gambian Government has retained ILACO to carry out a research and development program at Sapu station and in the adjacent region. The station grows irrigated and rain-fed rice. "Rain-fed" in the Gambian context means swamp rice which may be flooded periodically, in contrast to the "rain-fed" or upland rice of southern Senegal, Nigeria, etc., which is grown on plateaux which never flood. Under Gambian conditions, rain-fed trials are very difficult, for the length of time and depth of flooding has a profound effect on time to maturity and yield. Plots at lower lying points were ready for harvest whilst others were still green. Generally however short-term varieties do best.

The WARDA trials at this station include short-term, shallow water, short-term, deeper water, medium-term deep water and long-term deep water type. The varieties had not always been clearly distinguished however and some of the short-term varieties should have been included with the long-term ones and vice versa. In the standard WARDA fertilizer trial, the maximum N levels were too low for the ecological (insolation) conditions in irrigated rice in The Gambia.

Weeds are not a major problem in irrigated rice and can be controlled by cultural practices and available herbicides. In the "rain-fed" areas they are much more of a problem due to the unpredictable water regime.

Like northern Senegal, cold tolerant varieties for winter cropping are a major requirement in the irrigated area of The Gambia.

6. Mopti, Mali - September 19.

Mr. Vuong

Due to aircraft delays there was time only to discuss the experiments with the scientist in charge but not to visit the experimental site.

In conjunction with ORM (Organisation Riz Mali) there is an IBRD-financed polder project near Mopti and this has some agronomic input. Apart from this there is only the IRAT agronomist but the agreement with IRAT is likely to finish soon so that he may be withdrawn.

A solution to the problems of Mopti and rice research in Mali will not be easily found. On the one hand the Mopti area represents an extensive zone of deep water and floating rice of great importance to Mali but potentially of much greater importance to large regions beyond Mali. On the other, the town and station are very remote, facilities are limited and a viable research unit would require extensive support. Nevertheless, research to produce higher yielding varieties, with faster stem elongation



to cope with fast rising floods, later maturing to avoid ripening whilst the land is still flooded and stemborer resistance, would fill a major gap largely neglected in West African rice research. Wild rice is also a problem in this region.

However, it should be the aim of WARDA and the donors to design a realistic program of financing and staffing which would place a viable research unit at Mopti and which would have adequate facilities and infrastructure to support it.

8. Suakoko, Liberia - September 27. Mr. Tubman

Both swamp and upland rice are being grown at this station. Upland rice is grown as part of the slash and burn agriculture in Liberia, being the first crop after the forest fallow. Swamp rice forms a more permanent type of agriculture in the inland valleys. Soils in these valleys often contain toxic amounts of iron and are also very low in phosphates.

The station has an UNDP rice agronomist, a rice breeder from IITA, financed by an IBRD project, and a Liberian rice agronomist. It is thus relatively well staffed and has a good program on rice improvement. Selection for tolerance to iron toxicity has revealed several very promising varieties. WARDA has two rain-fed variety trials, one for early maturing and one for medium-term varieties. These trials have shown outstanding damage by blast on the IRRI varieties but good tolerance by the local selections.

The station has made a collection of almost 800 lines of O. glaberrima and the hope was expressed that the Genes Board would take an interest in this collection.

With suitable varieties and some fertilizer, particularly the development of an infrastructure for fertilizer delivery, the agronomist considers that there is a very good potential for increased rice production in the inland valleys of Liberia and adjacent territories.

ANNEX II

MEDIUM-TERM WORK PROGRAM

LIST OF PROPOSED PROJECTS AND PRIORITIES  
(As reported in March 1971 conference on WARDA)

1. Plant breeding
  - Drought resistant high-yielding upland varieties;
  - Upland and lowland varieties easy to mill;
  - Blast and brown leaf spot resistant varieties;
  - Lodging resistant varieties.
2. Plant physiology
  - Photoperiodism;
  - Effects on yield of planting date;
  - Best planting date for different varieties.
3. Plant protection
  - Plant pathology (emphasis on blast and brown leaf spot);
  - Entomology (study of the effects of systemic and tropical insecticides);
  - Birds and rodents control;
  - Weed control (use of herbicides).
4. Agriculture
  - Spacing and sowing rate;
  - Studies on crop rotation and use of fertilizers as a way to discontinue shifting agriculture.
5. Development and Soils
  - Soil surveys and land classification to determine the best rice soils within the region;
  - Fertilizer trials and fertilizer response experiments;
  - Study of soil conservation problems under rainfed rice cropping;
  - Specific soil fertility problems on rice soils;
  - Soil management problems;
  - Chemical and physical investigations in connection with soil survey, soil fertility and irrigation development work;
  - Salinity problems;
  - Inventory of water resources in order to identify the possibilities of extending irrigated rice;
  - Study of the best methods to develop lowlands and tidal swamps.



ANNEX III

LIST OF PARTICIPATING COUNTRIES

Cote d'Ivoire

Dahomey

The Gambia

Ghana

Guinee

Haute Volta

Liberia

Mali

Mauritanie

Niger

Nigeria

Senegal

Sierra Leone

Togo

ANNEX IV

TERMS OF REFERENCE FOR THE RESEARCH MANAGER

The research manager would have the following responsibilities and functions:

1. In cooperation with the research coordinator of WARDA, assess priorities, formulate an overall research program and prepare budgets for presentation to the Governing Council.
2. Establish close links with the Centers, especially IRRI and IITA, and with IRAT.
3. Visit the research stations in member countries, establish contacts there, become familiar with their programs and use this information as the basis for planning WARDA's cooperative research programs with the countries concerned.
4. Participate with the research coordinator in discussions with donors on support for the research program.

The research manager would require qualifications and international experience at the level of a Senior Scientist in an international center.



ANNEX V

PROVISIONAL STATEMENT OF EXPENDITURE

COORDINATED TRIALS 1974

(1 JANUARY - 31 JULY 1974)

Country:	Currency used:	Exchange rate:
Station:	Variety trials, number:	
Fertilizer Trials, number:	Total number of Trials:	
Average size of a coordinated field trial:		
Total area of the coordinated trials at this station:		

I. OPERATIONAL COSTS (of all coordinated trials at this station). Total

1. Actual cost of land preparation
2. Actual cost of labour\*\*  

Number of man-days	Rate per day
--------------------	--------------
3. Fertilizers:  

<u>Type:</u>	<u>Quantity:</u>	<u>Unit Price:</u>
--------------	------------------	--------------------
4. Insecticides:  

<u>Type:</u>	<u>Quantity:</u>	<u>Unit Price:</u>
--------------	------------------	--------------------
5. Miscellaneous:\*\*\*

SUB TOTAL ACTUAL OPERATIONAL COSTS

II. ACTUAL INVESTMENTS: (for all coordinated trials at this station).

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>
-------------	-----------------	-------------------

SUB TOTAL ACTUAL INVESTMENTS

III. FIELD ASSISTANTS: (actually employed for coordinated trials)

Name:	Monthly salary:
	Cost for 6 months:

Name:	Monthly salary:
	Cost for 6 months:

SUB TOTAL ACTUAL FIELD ASSISTANTS COSTS

ACTUAL TOTAL COST OF COORDINATED TRIALS AT THIS LOCATION

Name & Title of )  
 Responsible Officer )  
 Signature & Office Stamp  
 Date:

\* Budgeted amounts per trial: US\$300.00 for Operational Costs  
 US\$100.00 for Investments  
 US\$250.00 per month per Field Assistant.

\*\* Employed in planting, weeding, harvesting & general maintenance.

\*\*\* Includes: stakes, labels, bags, rope, etc.

# ISSIFU ALI & CO.

CHARTERED ACCOUNTANTS

PRINCIPAL

ISSIFU ALI, MA. ACA. ACIS.

Telephone 24674

Cables & Telegrams: ALICO

ARKU HOUSE  
158A/1, LIBERTY AVENUE  
P. O. BOX 6037  
ACCRA, GHANA  
WEST AFRICA

4th December, 1973

Our Ref. IA/swc.

The Chairman,  
Governing Council,  
WARDA.,  
E.J. Roye Memorial Building,  
P.O. Box 1019,  
MONROVIA, LIBERIA.

Dear Sir,

CERTIFIED EXPENDITURE  
TWENTY-TWO MONTHS ENDED SEPTEMBER 30, 1973.

We arrived in Monrovia on October 20, 1973, at the request of the Executive Secretary to prepare a certified statement of expenditure for the twenty-two months ended September 30, 1973. We attach hereto the said statement.

2. In carrying out this exercise we
  - (a) Examined the system of internal control in operation,
  - (b) Vouched expenditure incurred for selected periods within the period under review on the basis of the effectiveness or otherwise of 2(a) above, and
  - (c) Thoroughly examined selected accounts for the twenty-two month period to ensure that the entries made therein were properly charged.
  
3. The final audit of WARDA's accounts will be conducted in April next year. We shall then submit, in addition to the accounts, our auditors' report on the financial operations of WARDA for the period ending December 31, 1973.

/2....



4. In the course of our interim audit we carried out an appraisal of WABDA's accounting system and procedures. We have submitted to the Executive Secretary our findings and recommendations for the improvement of the existing system.

Yours faithfully,

  
ISSIFU ALI & CO.

Encls:

STATEMENT OF EXPENDITURE

PERIOD ENDED SEPTEMBER 30, 1973

SECRETARIAT EXPENDITURE

\$368,126.07

PROJECT EXPENDITURE

USAID

\$243,430.50

THE NETHERLANDS

14,680.22

258,110.72

TOTAL SECRETARIAT AND  
PROJECT EXPENDITURE:

\$626,236.79

We certify that the expenditure above is a true and fair view of the financial transactions of WARDA for the period ended September 30, 1973.

*Issifu Ali*

.....  
ISSIFU ALI & Co.  
AUDITORS



ANNEX VII

REPORT OF THE AUDITORS TO

THE GOVERNING COUNCIL OF

THE WEST AFRICA RICE DEVELOPMENT ASSOCIATION

We have examined the attached Balance Sheet and Statement of Income and Expenditure and have obtained all the information and explanations necessary for the purpose of our audit.

In our opinion, and to the best of our knowledge and belief, the attached Balance Sheet and the Income and Expenditure Statement together with the notes thereon show a true and fair view of the state of the Association's affairs for the twenty-five months ended 31st December, 1973, and of its fund balances for the period ended on that date.

.....  
CHARTERED ACCOUNTANTS

WEST AFRICA HIGH DEVELOPMENT ASSOCIATION  
BALANCE SHEET AS AT 31ST DECEMBER, 1973

CURRENT ASSETS

	\$
Cash in Hand and at Bank	45,746
Time Deposit Account	146,475
Receivables - Member States (Note 3)	216,521
Other Receivables (Note 4)	34,690
Prepaid Expenses	2,163
Repatriation Fund Investment	2,781
Total Current Assets	<u>\$449,376</u>

FIXED ASSETS (Note 2)

Motor Vehicles and Bicycles	15,918
Office Equipment, Furniture and Fixtures	46,365
Bungalow Equipment, Furniture and Fixtures	15,467
Total Fixed Assets	<u>578,751</u>

Total Assets \$528,127

LIABILITIES

Accounts Payable	41,144
Contributions in Advance - Member States	34,573
Total Liabilities	<u>\$75,717</u>

FUND BALANCES

General Fund	424,134
Reserve Fund	15,475
Unexpended Grants	7,105
Repatriation Fund (Note 5)	7,696

\$452,410

Total Liabilities and Fund Balances \$528,127



WEST AFRICA RICH DEVELOPMENT ASSOCIATION  
STATEMENT OF INCOME AND EXPENDITURE FOR  
25 MONTHS ENDED 31ST DECEMBER, 1973

	GENERAL FUND \$	RESERVE FUND \$	REPATRIATION FUND \$	PROJECTS \$	TOTAL \$
<u>REVENUES</u>					
MEMBERS CONTRIBUTIONS	821,404	-	-	-	821,404
<u>GRANTS (Note 6)</u>					
UNDP Support Contri- bution	477,444	-	-	35,695	513,137
U.S.A.I.D.	-	-	-	280,000	280,000
Netherlands	-	-	-	74,000	74,000
France	-	-	-	20,370	20,370
Ford Foundation	-	-	-	30,000	30,000
Interest on Time Deposit	-	13,475	-	-	13,475
<b>TOTAL REVENUE</b>	<b>1,298,848</b>	<b>13,475</b>	<b>-</b>	<b>440,065</b>	<b>1,752,386</b>
<u>EXPENDITURE (SON.)</u>	<u>874,714</u>	<u>-</u>	<u>(7,696)</u>	<u>432,958</u>	<u>1,299,976</u>
<b>EXCESS OF REVENUE OVER EXPENDITURE - BEING FUND BALANCES</b>	<b><u>\$ 424,134</u></b>	<b><u>\$ 13,475</u></b>	<b><u>\$ 7,696</u></b>	<b><u>\$ 7,105</u></b>	<b><u>\$ 452,410</u></b>

WEST AFRICA RICE DEVELOPMENT ASSOCIATION  
SCHEDULE OF EXPENDITURE  
FOR THE TWENTY FIVE MONTHS ENDING 31ST DECEMBER, 1973

<b>A.</b>	<u>SECRETARIAT EXPENDITURE</u>	\$
	I Personnel Costs:	
	Staff Costs	183,995
	Common Staff Costs	90,084
		<u>274,079</u>
	II Cost of Common Services and Miscellaneous Expenses:	
	Maintenance and Repairs	23,630
	Communications and Freights	13,397
	Miscellaneous Supplies and Services	19,676
		<u>56,703</u>
	III Travel and Missions	
	Official Travel	28,950
	Meetings and Governing Council	28,104
		<u>57,054</u>
	IV Other Charges	<u>9,434</u>
	TOTAL	397,270
	U.N. D.P. Support Expenses	<u>477,444</u>
	TOTAL SECRETARIAT EXPENSES	<u>\$874,714</u>
<b>B.</b>	<u>PROJECT GRANT EXPENDITURE</u>	
	<u>U. S. A. I. D.</u>	
	Seminars	\$ 33,670
	Training (IITA, Ibadan, & Monrovia)	106,693
	Coordinated Trials	70,786
	Research Coordination	20,366
	Seed Storage Centre	3,657
	Plant Protection	6,308
	Project Design	<u>24,429</u>
		273,909
	<u>NETHERLANDS:</u> Research Coordination	72,986
	<u>FRANCE:</u> Seed Multiplication Centre (Richard Toll, Senegal)	20,370
	<u>U.N.D.P. SUPPORT:</u> Administration	35,693
	<u>FORD FOUNDATION:</u> Training (IITA, Ibadan)	<u>30,000</u>
	TOTAL PROJECT GRANT EXPENDITURE	<u>\$432,958</u>



WEST AFRICA RICE DEVELOPMENT ASSOCIATION

NOTES TO THE ACCOUNTS

FOR TWENTY-FIVE MONTHS ENDED 31ST DECEMBER, 1973

1. GENERAL

These are the first accounts to be prepared by the Association and accordingly no comparative figures are given. The accounts cover a period of twenty-five months.

2. FIXED ASSETS

The Association follows the practice like other non-profit making organisations of not providing for depreciation. Fixed Assets are accordingly shown at cost.

3. RECEIVABLES - MEMBER STATES:

Receivables from Members represent outstanding contributions from Member States as at 31st December, 1973. The figure for receivables is made up as follows:-

Dahomey	\$ 44,899
Ghana	51,538
Ivory Coast	1,220
Mali	32,103
Mauritania	59,552
Niger	27,209
	<u>326,521</u>

As at May 31, 1974, additional \$46,605 had been received from member states - \$41,130 from Ghana and \$5,475 from Mauritania.

4. OTHER RECEIVABLES

Other receivables include \$8,404 representing advances to employees.

5. REPATRIATION FUND

The Association has created a fund to meet repatriation grants due to retiring internationally recruited staff. As at December 31, 1973, the Fund stood at \$7,696. As at the same date \$2,791 of the Fund had been invested in a Savings Account, the balance of \$4,915 to be invested in the 1974 financial year.

STAFF PROVIDENT FUND scheme is also in operation. Each member of Staff contributes 7% of his salary while the Association contributes 14% towards the scheme. Once an employee retires or leaves the Association he is paid the total amount contributed by him and the Association, including interest.

6. DONOR COUNTRIES' COMMITMENTS

The commitments of Donor Countries and agencies to the Association, the amounts received and balances outstanding are as follows:-

	AMOUNT COMMITTED	AMOUNT RECEIVED	BALANCES OUTSTANDING
	\$	\$	\$
U.S.A.I.D.	625,000	280,000	345,000
NETHERLANDS	100,000	74,000	26,000
FRANCE	160,000	20,370	139,630
	<u>\$885,000</u>	<u>\$374,370</u>	<u>\$510,630</u>

Unutilised balances are available for use in 1974, in addition to commitments for the year.

The amount received from the Netherlands includes \$45,000 representing the salary of a Research co-ordinator in Monrovia, paid direct by the donor country.

The amount received from France represents the salary of an engineer engaged at the Seed Multiplication centre in Richard Toll, Senegal, paid direct by the donor country. The commitment by France for 1973 is the equivalent FF. 800,000 converted at the rate of FF. 5 = US \$1.

The Netherlands and France have also committed \$75,000 and \$160,000 respectively for the operations of the Association for 1974.

Contributions by UNDP amounts to \$513,137 of which \$477,440 represents Secretariat expenditure and \$35,693 project expenditure.

Ford Foundation has contributed \$30,000 towards training course at IITA in Ibadan, Nigeria.



WARDA  
1975 BUDGET  
Summary of Costs by Organizational Unit  
& Object of Expenditure 1972 - 1978  
(US\$'000)

Actual		Est. & Budget		Budget 1975	-----Projected-----			3-Year Total 1974/78
1972	1973	1974 Est.	1974 Budget		1976	1977	1978	

BY ORGANIZATIONAL UNIT

1. Executive Secretary
  - Executive Offices
  - Admin. & Finance
  - Common Staff Costs
  - Governing Council
  - Total Direct Costs <sup>a/</sup>
  - Capital Items
2. Communications & Documentation
  - Communications
  - Documentation
  - Common Staff Costs
  - Total Direct Costs
  - Capital Items
3. Development Department
  - Headquarters Staff
  - Field Staff
  - Seed Multiplication Center
  - Data Processing
  - Common Staff Costs
  - Total Direct Costs
  - Capital Items
4. Research Department
  - W-1 Program
  - W-2 Program
  - W-3 Program
  - W-4 Program
  - Common Staff Costs
  - Total Direct Costs
  - Capital Items
5. General Operating Costs
  - Buildings & Grounds
  - Motor Pool
  - Communications
  - Office & Misc. Supplies
  - Common Operating Equipment
  - Total Common Costs
  - Capital Items
  - Total Direct Costs
  - Total Capital Items

BY OBJECT OF EXPENDITURES

- Operating
- Personal Service Costs
  - Consultants
  - Operational Travel
  - Equipment
  - Vehicles
  - Maintenance & Repair
  - Communications & Freight
  - Other
  - Total Operating

<sup>a/</sup> Direct costs are defined as the following account numbers taken from WARDA's chart of accounts:

- (i) Salary costs 1101-1110
- (ii) Common Staff Costs 1201-1213
- (iii) Official Travel 3101-3103
- (iv) Meeting G. Council 3201-3203
- (v) Secretary only 4001-4004

WARDA 1975 BUDGET  
Summary Financial Data 1972-1975  
 (US\$'000)

	-----Actual-----		Est.	----- Budget -----	
	1972	1973	1974	1974	1975
<u>Current Assets</u>					
Cash					
Receivables:					
Member States					
Donors					
Other					
Prepaid Expenses (Trial Advances)					
Other current assets					
Total Current Assets					
<u>Fixed Assets</u>					
Office Furniture & Equipment					
Vehicles					
Research Equipment					
Furnishings - Staff Housing					
Buildings					
Land					
Other Fixed Assets					
Total Fixed Assets					
TOTAL ASSETS					
<u>Liabilities</u>					
Accounts payable - Member Countries					
Accounts payable - Other Donors					
Other Liabilities					
Total Liabilities					
<u>Capital Balances</u>					
Capital Grants					
Fully Expended					
Unexpended Balance					
Capital Grants in Kind					
Unexpended Operating Grants					
Total Capital Balances					
TOTAL LIABILITIES & CAPITAL					
<u>Sources of Funds</u>					
Member States					
CGIAR					
Other Donors					
Earned Income					
Total					
<u>Application of Funds</u>					
Operations					
Capital					
Unexpended Balance					
Total					

WARDA  
1975 BUDGET  
Summary of Source & Application of Funds  
(US\$'000)

--- Actual ---		----- EST & Budget -----			----- Projected -----		
1972	1973	1974 (EST)	1974 Budget	1975 Budget	1976	1977	1978

I Summary of Sources and Application of FundsTotal Funds Available:Cash Grants to WARDA:

Member Countries  
UNDP/FAO  
FAO/Assoc. Experts  
France  
France Assoc. Experts  
USAID  
CGIAR

Total

Cash Received on Grants  
Grants Receivable at year End  
Earned Income

Total Funds Available  
Grants in Kind  
Total Resources Available

Application of Funds to operations:

Executive Secretary  
Communication & Documentation  
Development Department  
Research Department  
General Operating Costs  
Total Operating

Capital Acquisitions:

Development Department  
Research Department  
Total Capital

Funds Applied to:Unexpended balances:

Member Countries  
UNDP/FAO  
France  
USAID  
CGIAR

TOTAL APPLICATION OF FUNDS

II. Funds Provided and Expenses by ActivityExecutive Secretary & General Overhead

Member Countries  
UNDP/FAO  
Executive Secretary & Overhead Costs  
Unexpended Balance

Communication & Documentation

Member Countries  
UNDP/FAO  
Total Expenses  
Unexpended Balance

Development Department

Member Countries  
UNDP/FAO  
France  
USAID  
Total Expenses  
Unexpended Balance

Research Department

W-1 (CGIAR)  
W-2 (France Assoc Exp)  
W-3 (France Assoc Exp)  
W-4 (USAID)  
Total Expenses  
Unexpended Balance



WARDA 1975 BUDGET  
Summary Financial Data 1972-1975  
(US\$'000)

	-----Actual-----		Est.	----- Budget -----	
	1972	1973	1974	1974	1975
<u>Current Assets</u>					
Cash					
Receivables:					
Member States					
Donors					
Other					
Prepaid Expenses (Trial Advances)					
Other current assets					
Total Current Assets					
<u>Fixed Assets</u>					
Office Furniture & Equipment					
Vehicles					
Research Equipment					
Furnishings - Staff Housing					
Buildings					
Land					
Other Fixed Assets					
Total Fixed Assets					
TOTAL ASSETS					
<u>Liabilities</u>					
Accounts payable - Member Countries					
Accounts payable - Other Donors					
Other Liabilities					
Total Liabilities					
<u>Capital Balances</u>					
Capital Grants					
Fully Expended					
Unexpended Balance					
Capital Grants in Kind					
Unexpended Operating Grants					
Total Capital Balances					
TOTAL LIABILITIES & CAPITAL					
<u>Sources of Funds</u>					
Member States					
CGIAR					
Other Donors					
Earned Income					
Total					
<u>Application of Funds</u>					
Operations					
Capital					
Unexpended Balance					
Total					



WARDA 1975 BUDGET  
Funded and Required Provisions  
(US\$'000)

	1974 Est.	1975 Budget	FY75 BUDGET		
			Requested from Member States	Fully Funded by Other Donors	New Grants Required
<u>Executive Secretary</u>					
Staff Costs					
Other Direct Costs					
Total					
<u>Communication &amp; Documentation</u>					
Staff Costs					
Other Direct Costs					
Capital Items					
Total					
<u>Development Department</u>					
Staff Costs					
Seed Multiplication Center					
Data Processing					
Other Direct Costs					
Capital Items					
Total					
<u>Research Department</u>					
W-1 Staff Costs					
Training & Seminars					
Plant Quarantine					
Other Direct Costs					
Capital Items					
Total					
W-2 Staff Costs					
Other Direct Costs					
Capital					
Total					
W-3 Staff Costs					
Other Direct Costs					
Capital					
Total					
W-4 Staff Costs					
Training					
Other Direct Costs					
Capital					
Total					
Total Research:					
Operations					
Capital					
Total					
<u>General Operating</u>					
Buildings					
Motor Pool					
Communications					
Office Supplies & Misc.					
Common Operating Equip.					
Total Operating					
TOTAL WARDA					







WARDA  
1975 ACTUAL VS BUDGETED STAFF  
For the Month Ending

.....  
Positions

----- Actual ----- Budget -----  
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec. Original Revised

Executive Secretary

Senior Staff  
Scientific & Supervision Staff  
Support Staff  
Total  
Staff Costs

Communications & Documentation

Senior Staff  
Scientific & Supervision Staff  
Support Staff  
Total  
Staff Costs

Development Department

Headquarters Staff  
Scientific & Supervision Staff  
Support Staff  
Total  
Staff Costs

Research Department

W-1 Program:  
Scientific Staff  
Support Staff  
Total  
Staff Costs  
W-2 Program:  
Scientific Staff  
Support Staff  
Total  
Staff Costs  
W-3 Program:  
Scientific Staff  
Support Staff  
Total  
Staff Costs  
W-4 Program:  
Scientific Staff  
Support Staff  
Total  
Staff Costs

TOTAL STAFF

of which: Senior Staff  
Scientific & Supervisory  
Support



1975 BUDGET STATEMENT  
For the Period Ending  
.....  
(US\$'000)

	1975 Original Budget	1975 Revised Budget	Actually Expended To date	Committ. Outstanding	Total Exp. & Comm.	Balance
<u>Authorized Staff</u>						
Senior Staff						
Scientific & Supervisory Support						
Total						
<u>Direct Costs</u>						
Regular Salaries						
Post Adjustments						
Assignment Allowances						
Other Allowances						
Temp. & Overtime						
Contractual Services						
Consultants						
Common Staff Costs						
Operational Travel						
Equipment						
Total Operating						
<u>Capital Items</u>						
(List)						
Total Capital						
TOTAL CAPITAL						
TOTAL BUDGET/COSTS						

ANNEX X  
TABLE 1

Recommended  
Audit Reports  
Certification Required for  
Actual Figures

WARDA  
Balance Sheet  
As of December 31, 1974  
(US\$'000)

	Actual		Budget	
	1973	1974	1974	1975
1972				

Current Assets

Cash  
Receivables:  
    Member States  
    Donors  
    Other  
Prepaid Expenses (Trial Advances)  
Other Current Assets  
    Total Current Assets

Fixed Assets

Office Furniture & Equipment  
Vehicles  
Research Equipment  
Furnishings - Staff Housing  
Buildings  
Land  
Other Fixed Assets  
    Total Fixed Assets  
TOTAL ASSETS

Liabilities

Accounts payable - Member Countries  
Accounts payable - Other Donors  
Other Liabilities  
    Total Liabilities

Capital Balances

Capital Grants  
    Fully Expended  
    Unexpended Balance  
Capital Grants in Kind  
Unexpended Operating Grants  
    Total Capital Balances  
TOTAL LIABILITIES & CAPITAL

Statement of Sources & Application of Funds  
For the Year Ending December 31, 1974  
(US\$'000)

	-----Actual-----			-----Budget-----	
	1972	1973	1974	1974	1975
<u>Summary of Sources and Application of Funds</u>					
Total Funds Available:					
Cash Grants to WARDA:					
Member Countries					
UNDP/FAO					
FAO/Assoc. Experts					
France					
France Assoc. Experts					
USAID					
CGIAR					
Total					
Cash Received on Grants					
Grants Receivable at year End					
Earned Income					
Total Funds Available					
Grants in Kind					
Total Resources Available					
<u>Application of Funds to operations:</u>					
Executive Secretary					
Communication & Documentation					
Development Department					
Research Department					
General Operating Costs					
Total Operating					
<u>Capital Acquisitions:</u>					
Development Department					
Research Department					
Total Capital					
<u>Funds Applied to:</u>					
Unexpended balances:					
Member Countries					
UNDP/FAO					
France					
USAID					
CGIAR					
TOTAL APPLICATION OF FUNDS					

a/ Attach Schedule 1 to show funds provided and costs of individual donor.  
b/ Attach Schedule 2 to show sources and uses of earned income for the current year.



Schedule 2: Detailed Schedule  
Of Earned Income  
For the Year Ending December 31, 1974  
(US\$'000)

<u>Actual</u>	<u>Approved</u>
	<u>Budget</u>

Sources of Earned Income:

Interest on Deposits  
Sale of Crops  
Sale of Assets  
Total

Application of Earned Income

Applied to:

(List)

Total

Schedule 2: Detailed Schedule  
Of Earned Income  
For the Year Ending December 31, 1974  
(US\$'000)

<u>Actual</u>	<u>Approved</u>
	<u>Budget</u>

Sources of Earned Income:

Interest on Deposits  
Sale of Crops  
Sale of Assets  
Total

Application of Earned Income

Applied to:

(List)

Total

GII

PROPOSITIONS VISANT AU  
RENFORCEMENT DE LA RECHERCHE  
ET DE LA GESTION FINANCIERE  
DE  
L'ASSOCIATION POUR LE DEVELOPPEMENT  
DE LA RIZICULTURE EN AFRIQUE DE L'OUEST (ADRAO)

PROJET DE RAPPORT DU SECRETARIAT DE LA MISSION  
(J. K. COULTER, CONSEILLER SCIENTIFIQUE, SECRETARIAT DU G.C.,  
I. E. RUDDY, REPRESENTANT LE DEPARTEMENT DES BUDGETS ET DES  
PROGRAMMES DE LA BANQUE MONDIALE, ET  
P. DEVRED, REPRESENTANT LE SECRETARIAT DU CAT)

17 octobre 1974



## TABLE DES MATIERES

Résumé des conclusions et recommandations

### Le rapport

Introduction

Le programme de recherche

Formation

Recommandations visant au renforcement de la direction de la recherche de l'ADRAO

Intégration des programmes W-1 à W-4

Liens entre les départements de la recherche et du développement

Vulgarisation

Gestion financière

Recommandations visant au renforcement de la gestion financière de l'ADRAO

### Annexes

## RESUME DES CONCLUSIONS ET RECOMMANDATIONS

### CONCLUSIONS

1. Le riz est cultivé en Afrique de l'Ouest dans des milieux et selon des méthodes très divers.
2. Une station donnée ne peut prendre en compte cette diversité de situations; il en faudrait au moins cinq, dotées du personnel nécessaire, pour effectuer des recherches sur l'adaptation du riz aux conditions de l'Afrique de l'Ouest.
3. Ces stations auraient à étudier les problèmes des adventices, des parasites, des maladies, de la fertilité du sol, et de l'eau, et à modifier en conséquence le matériel génétique et les techniques de production de l'IRRI et de l'IITA.
4. Plusieurs programmes nationaux de cette région souffrent du manque de personnel, du manque de matériel, et de l'insuffisance des recherches sur d'autres cultures, ce qui empêche de lancer des programmes efficaces concernant le riz. Il est probable qu'un programme coopératif dirigé par des chercheurs expérimentés progresserait davantage qu'une série de programmes nationaux non-coordonnés.
5. L'Association existe maintenant depuis près de trois ans, et l'expérience montre que certains changements sont nécessaires, notamment en ce qui concerne la direction de la recherche, l'établissement du budget et la formation. Que l'on donne à l'ADRAO le temps d'agir dans ces domaines, et les techniques de production rizicole de cette région ne manqueront sans doute pas de l'améliorer.

### RECOMMANDATIONS

1. L'ADRAO devrait nommer un directeur de la recherche possédant une expérience suffisante en matière de recherche agricole internationale.
2. Le directeur et le coordonnateur de la recherche devraient élaborer un plan intégré indiquant un ordre de priorité en matière de recherche, de personnel, et de budget en vue de l'établissement d'un programme global qui regrouperait les programmes W-1 à W-4, actuellement définis de façon assez vague. Ce plan devrait tenir compte de contraintes telles que la disponibilité en personnel et en moyens financiers, la nécessité d'établir la viabilité scientifique et financière de l'organisation, les besoins d'infrastructure de certaines stations, et la logistique que suppose l'organisation d'un programme de recherches intéressant une zone géographique aussi vaste. Ce programme devrait indiquer les avantages qu'il se propose d'apporter aux différents pays de la région ainsi qu'à celle-ci dans son ensemble.

3. En 1975, la CGIAR devrait apporter à l'ADRAO un volume d'aide comparable à celui de 1974. Cette aide aurait pour objet de maintenir les éléments les plus importants du programme W-1 et de financer les dépenses afférentes à la nomination du directeur de la recherche.

4. L'ADRAO devrait adopter le système du budget annuel, accompagné d'un plan financier qu'elle soumettrait à approbation. L'établissement du budget devrait être lié à la planification et à la programmation internes à court et moyen termes de l'institut. Un budget annuel, indiquant les opérations et les dépenses envisagées par l'ADRAO pour chaque exercice devrait être présenté au Conseil d'administration. A cette fin, il faudrait adopter le système budgétaire qu'utilisent tous les centres internationaux.

5. La gestion du budget devrait être confiée aux directeurs de programmes.

6. Il faudrait faire un examen critique du programme de formation destiné au personnel appelé à effectuer des recherches sur le riz et les systèmes de production dans la région; il y aurait lieu d'évaluer la nécessité de différents types de formation, les effectifs du personnel possédant la formation de base requise, ainsi que les besoins en locaux et en personnel, compte tenu de ce dont on dispose dans la région. Il est fortement recommandé à l'IITA et à l'IRRI d'oeuvrer ensemble à la planification globale de ce programme.

7. Il faudrait réexaminer le rôle des divers comités afin d'en réduire le nombre. Si l'on réalise la restructuration de la direction de la recherche et du budget, on pourrait envisager de dissoudre le Comité de coordination et de renforcer le Comité scientifique et technique en lui adjoignant deux chercheurs extérieurs à la région, dont l'un pourrait remplir les fonctions de président.

8. Il faudrait faire le point sur l'application de ces recommandations au milieu de 1975.



PROPOSITIONS VISANT A RENFORCER LES RECHERCHES ET  
LA GESTION FINANCIERE DE L'ASSOCIATION

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Projet de rapport de la Mission du secrétariat

INTRODUCTION

1. La mission, composée de M. J. K. Coulter, conseiller scientifique, du secrétariat du groupe consultatif, et de M. R. Devred (FAO), représentant le secrétariat du CCT, est arrivée à Dakar le 15 septembre et a quitté Monrovia le 29 septembre. M. M. E. Ruddy, représentant le Département des programmes et des budgets de la Banque Mondiale, s'est joint à elle le 23 septembre à Monrovia. La mission s'est rendue dans les stations de recherche sur le riz du Sénégal, de la Gambie, du Mali et du Libéria (voir le détail de l'itinéraire à l'Annexe I).

2. Même si la consommation de riz de l'Afrique de l'Ouest est peu élevée par rapport à celle de l'Asie, le riz constitue une culture très importante dans la plus grande partie de cette région; et bien que l'on trouve en Asie des zones écologiques comparables, celles-ci varient considérablement en étendue. Ainsi, les mangroves sont importantes en Sierra Leone, en Gambie et au Sénégal; les marécages à demi inondés des vallées intérieures aux sols très pauvres, dont certains ont une toxicité du fer élevée, sont importants en Sierra Leone, en Gambie et au Nigéria. Du riz pluvial non inondé est cultivé dans la plupart des pays de la région. Les zones irriguées du Sénégal et de la Gambie connaissent des hivers frais et des étés chauds avec beaucoup d'ensoleillement et des pluies peu abondantes, tandis que d'autres pays ont de fortes précipitations, avec un ou deux maximums et une importante couverture nuageuse pendant la période de croissance. Les systèmes de production diffèrent considérablement en Asie et en Afrique, où la riziculture est étroitement associée à des cultures sèches.

3. Il faudra sans doute effectuer de nombreux travaux de recherche sur les possibilités d'adaptation du matériel génétique de l'IRRI et sur les techniques de production qu'il a mises au point. Dans les pays qui sont de plus grands producteurs de riz, ces tâches relèvent naturellement des programmes nationaux, mais étant donné la dispersion de la production en Afrique de l'Ouest et les programmes nationaux limités, il est tout à fait justifié de faire appel à la coopération régionale, dans la mesure où celle-ci peut s'appuyer sur une structure appropriée pour la planification et la gestion des budgets et des programmes de recherche.

4. A la suite de la décision de la conférence internationale de septembre 1969 de créer l'ADRAO, un certain nombre de réunions et de séminaires ont été organisés, et des consultants ont aidé à identifier les problèmes et à établir une liste des priorités en vue de l'institution de programmes de recherches. En mars 1971, ces derniers ont été énumérés dans un programme de travail

à moyen terme (voir Annexe II), puis ont été ramenés à 14 projets de recherche devant être présentés à la première session du Conseil d'administration, en mai 1972. A la demande du CCT, d'autres discussions ont eu lieu entre le secrétaire exécutif de l'ADRAO et les représentants de l'IRRI, de l'IITA et de l'IRAT; elles ont conduit à la décision de lancer un programme de recherche comprenant des essais coordonnés, baptisés W-1, et trois projets de recherche spéciaux, W-2, W-3 et W-4.

5. La direction politique, scientifique, technique et financière de cette organisation unique incombe aux quatre comités suivants, dont les mandats sont remplis par le Secrétaire exécutif:

- 1) le Conseil d'administration, qui comprend un membre de chacun des 14 pays participants énumérés à l'Annexe III; ces membres ont en général rang de Directeurs de l'agriculture ou de Ministres;
- 2) le Comité scientifique et technique, qui comprend cinq personnes de niveau directorial venant des pays participants, et deux chercheurs extérieurs;
- 3) le Comité consultatif, comprenant six chercheurs de la région - dont certains sont spécialistes de la recherche sur le riz - et onze chercheurs extérieurs à la région, représentant des donateurs ou des donateurs potentiels; l'IRRI, l'IRAT et l'IITA sont également représentés;
- 4) le Comité de coordination (créé à la demande du Groupe consultatif), qui comprend huit chercheurs venant, les uns de la région, les autres de l'extérieur.

6. Schématiquement, le Conseil d'administration est responsable de la politique d'ensemble de l'ADRAO, le Comité scientifique et technique du programme de recherche, le Comité consultatif du programme financier, et le Comité de coordination a pour fonction de surveiller l'avancement du programme de recherche. Le Conseil et ses comités se réunissent au moins une fois par an. Il va de soi qu'un appareil de direction aussi important entraîne de lourdes dépenses; en 1974, par exemple, le budget de l'ADRAO pour les voyages des services du Secrétariat et pour les réunions s'élève à 65.200 dollars.

7. Le programme de l'ADRAO comporte deux départements: recherche et développement. La section de la formation a été transférée du département du développement à celui de la recherche. La mission a étudié ce dernier seulement.



LE PROGRAMME DE RECHERCHE

8. Initialement, un très vaste programme de recherche était prévu pour l'ADRAO, mais il a été ensuite ramené à quatre composantes:

- a) W-1, essais d'engrais et essais variétaux coordonnés;
- b) W-2, amélioration variétale;
- c) W-3, fertilité des sols;
- d) W-4, protection des plantes.

Le programme W-1

9. Le programme W-1 est le seul qui concerne actuellement le Groupe consultatif; ce dernier a fourni 475.000 dollars en 1974, et on lui a demandé d'en fournir 790.000 dollars en 1975. La documentation de l'ADRAO sur le programme W-1 a déjà été transmise aux membres du Groupe consultatif du CCT. Les essais d'engrais suivent un schéma normalisé qui permet l'inclusion de deux fumures recommandées localement et sont effectués dans toute la région dans des stations appropriées pour le riz pluvial, le riz irrigué, le riz d'immersion profonde et le riz flottant. Les essais variétaux intéressent les mêmes régions écologiques et portent sur des variétés à cycle évolutif long, moyen et court, locales ou non. Là encore, des procédures normalisées sont prévues pour le schéma expérimental, les techniques de plantation, l'enregistrement de la croissance et des rendements, etc., de façon que les résultats des différents sites soient comparables.

10. Les travaux sont coordonnés à Monrovia, où se trouvent un coordonnateur de la recherche, un coordonnateur des essais d'engrais, un coordonnateur de l'amélioration variétale, ainsi que des installations permettant l'analyse statistique des résultats.

11. Sur le terrain, deux moniteurs ou assistants, qui ont suivi à Monrovia le stage de formation de trois semaines de l'ADRAO, supervisent le travail quotidien concernant les essais. Dans certaines stations, ils sont sous le contrôle direct d'un chercheur; dans d'autres, ils reçoivent simplement des visites périodiques.

12. Jusqu'à présent, tous les essais ont été effectués dans des stations de recherche; l'ADRAO n'en a encore fait aucun en milieu paysan. Vingt huit stations de recherche ou expérimentales, dont l'IITA, situées dans douze pays, participent au projet. La mission a pu se rendre dans sept d'entre elles au Sénégal, en Gambie, au Mali et au Libéria; il est probable que les conclusions qu'elle tirera de ces visites pourront, pour la plupart, être généralisées.



13. De ces visites nous avons conclu que les essais sont organisés et menés conformément aux indications du programme. Les instructions sont suivies à la lettre, les résultats consignés soigneusement, et les conditions culturelles sont bonnes. Nous concluons donc que les résultats des essais, dans les stations expérimentales où il y a un chercheur responsable, sont satisfaisants.

14. Nous ne sommes pas aussi affirmatifs à propos des stations où il n'y a pas de chercheur en permanence. A Richard Toll, par exemple, il a fallu recommencer les essais d'engrais, en raison d'une mauvaise gestion de l'irrigation par le moniteur en place. Nous n'avons pu visiter les stations de Kogoni et de Sicasso (Mali), supervisées seulement par deux moniteurs que viennent rarement voir les chercheurs de Mopti, à 700 km de là; nous estimons qu'il n'est pas possible, avec une telle distance, d'assurer un contrôle satisfaisant.

#### Avantages du programme W-1

15. Bien que ce soit la présence du chercheur dans les stations plutôt que le contrôle exercé depuis le siège situé à Monrovia qui ait assuré le succès du programme W-1, celui-ci a eu des conséquences utiles.

- a) Compte tenu des problèmes de financement, le caractère dispersé des essais et la zone géographique intéressée, le programme a pris un bon départ.
- b) Il a montré aux responsables nationaux que la coopération, dans une région possédant peu de ressources scientifiques, était une chose bénéfique.
- c) Il a favorisé le rapprochement des spécialistes du riz de la région, qui peuvent ainsi se rencontrer et discuter de leurs problèmes mutuels.
- d) Il a donné une formation à un certain nombre d'assistants dans les domaines de la conduite et de la gestion des expériences sur le riz. Cette expérience constituera un atout inestimable pour les nouveaux programmes, notamment ceux qui seront réalisés en milieu paysan.
- e) Il a mis l'accent sur la nécessité de modifier substantiellement les variétés de l'IRRI pour qu'elles puissent donner des résultats en Afrique de l'Ouest. Cela s'impose en effet, si l'on considère que les variétés de l'IRRI cultivées en sec à Suacoco (Libéria) ont été détruites par la piriculariose, tandis que les variétés sélectionnées localement ont montré une immunité quasi-totale.
- f) Il a mis l'accent sur la nécessité d'intensifier les recherches sur les possibilités d'adaptation, étant donné la diversité des conditions climatiques, pédologiques et biologiques de l'Afrique de l'Ouest.

Problèmes du programme W-1

16. Au cours de ses visites, la mission a noté un certain nombre d'insuffisances. La plupart d'entre elles disparaîtront à mesure que le programme progressera; leur énumération ici servira à montrer les problèmes rencontrés.

- a) La plupart des stations effectuent des essais d'engrais depuis quelques années, et les résultats de ces expériences sont généralement connus. Un essai normalisé n'offre pas suffisamment de latitude pour répondre à des besoins aussi différents que ceux des régions très ensoleillées du Sénégal septentrional ou de la Mauritanie par exemple, et ceux des régions peu ensoleillées du Libéria ou de la Sierra Leone. La valeur des essais normalisés que l'on effectue dans des situations écologiques très diverses est donc limitée, et même s'ils ont eu leur utilité, du fait qu'ils ont introduit l'ADRAO dans la région, il y aurait lieu de restructurer ce programme dans l'avenir proche.
- b) Bien que les essais variétaux jouent un rôle utile en montrant comment la pluie, par exemple, peut influencer sur les attaques de piriculariose, les variétés ne peuvent couvrir toutes les zones écologiques; par exemple, la résistance au froid de la variété d'hiver est de prime importance en Mauritanie, dans le nord du Sénégal et en Gambie, mais sans intérêt ailleurs.
- c) Dans certaines stations, les chercheurs considèrent les essais comme une corvée qui vient s'ajouter à leur programme de travail déjà surchargé. En d'autres termes, ils estiment qu'ils ont dû affecter des ressources rares à des projets qui, selon eux, ont un degré de priorité peu élevé. C'est ainsi qu'un certain nombre de stations ont fait venir des variétés en dehors du programme de l'ADRAO pour les inclure dans leurs propres programmes. Ce problème pourra être résolu à l'avenir si l'on prévoit un programme plus souple, fondé sur la coopération plutôt que sur la coordination totale.
- d) Parfois les semences fournies par l'ADRAO arrivent trop tard, les quantités sont insuffisantes, elles ont un pouvoir germinatif faible ou les variétés sont mélangées. Parfois aussi il y a des erreurs dans la durée de la période de pousse. Ce sont là des problèmes qui devraient être éliminés lorsque les installations de traitement et de distribution des semences de l'ADRAO, qui sont presque achevées, entreront en service. L'ADRAO devrait alors être en mesure d'envoyer des semences pures, convenablement traitées, à temps pour être plantées.
- e) Il a été demandé que toutes les semences de riz importées en Afrique de l'Ouest passent par la station de quarantaine d'Ibadan. A l'heure actuelle, en fait, les pays de la région importent beaucoup



directement. Cela ne veut pas dire qu'ils ne prennent pas de précautions, car les semences sont accompagnés des certificats phytosanitaires requis; on peut toutefois penser que si l'ADRAO doit s'occuper seule des importations de semences de riz et des procédures de quarantaine de la région, il faudra améliorer sensiblement les installations et accélérer le processus. A ce propos, l'ADRAO fournit actuellement les fonds nécessaires à la construction d'une structure en verre à Ibadan.

- f) Les mesures détaillées que suppose chaque essai, par exemple le ratio grain/paille, la teneur en eau des grains, exigent de l'espace et des installations que certaines stations ne possèdent pas; ces mesures supplémentaires mettent elles aussi à contribution les ressources limitées des stations de recherche.
- g) Outre les salaires des moniteurs, l'ADRAO paie 300 dollars pour chaque expérience. Certaines stations estiment que ce chiffre est insuffisant pour couvrir les dépenses; en réalité, cela montre comment ces dernières sont calculées: si l'on inclut d'autres frais généraux, il est facile d'obtenir un chiffre plus élevé par expérience. Certaines stations considèrent les essais de l'ADRAO comme une source supplémentaire de revenus. Il faudrait arriver, à plus ou moins brève échéance, à ce que les pays financent eux-mêmes les essais et rémunèrent les moniteurs; en particulier dans le cas des essais effectués en dehors des stations dans les rizières paysannes. En 1974, le coût des essais était inscrit au budget pour 275.000 dollars, soit 50 % environ du budget total de l'ADRAO pour le programme W-1. On trouvera à la section consacrée au renforcement de la gestion financière des recommandations en faveur d'un contrôle financier plus sévère des déboursments relatifs à ces essais.
- h) Les problèmes que pose la supervision des essais depuis le siège situé à Monrovia n'ont pu être évalués entièrement. Le personnel actuel ne peut faire une visite utile à chaque station à des moments importants comme celui de la plantation, pendant la croissance et juste avant la récolte. Tant que l'on n'aura pas établi un programme de visites, il ne sera pas possible d'évaluer de façon réaliste le temps et le travail que demandent ces essais; cette tâche devrait faire partie du programme global de planification de la recherche.
- i) Un programme d'essais variétaux en l'absence de programme d'amélioration variétale ou de sélection n'a qu'une valeur limitée; il est donc nécessaire d'intégrer cette part de W-1 au programme W-2.
- j) Le succès de tout programme d'essais coordonnés ou coopératifs dépend de la présence de chercheurs compétents dans les stations expérimentales des pays de la région. Cette dépendance donne lieu à des anomalies: les stations qui ont le moins besoin d'essais obtiennent les meilleurs résultats, tandis que celles qui ont peu de ressources



scientifiques ne peuvent guère faire de progrès. En outre, plusieurs stations sont encore largement tributaires des chercheurs étrangers, dont la position peut changer rapidement, si bien que, suffisamment dotées en spécialistes à un moment donné, elles risquent de s'en trouver dépourvues quelques mois plus tard. Il faudra donc renforcer certaines stations, si possible sous les auspices de l'ADRAO. Dans les cas où la supervision scientifique est insuffisante, il sera peut-être nécessaire d'effectuer différents types d'essais, et de mettre l'accent sur la quantité plutôt que sur la qualité.

#### FORMATION

17. Ce programme a été transféré de département du développement à celui de la recherche. L'ADRAO a organisé la formation à deux niveaux:

- a) un cours de trois semaines à Monrovia pour les moniteurs, à l'issue duquel les stagiaires retournent dans leur pays et travaillent dans le cadre du programme W-1;
- b) un programme de formation de six mois portant sur la production du riz et destiné aux stagiaires ayant une qualification équivalente à celle d'ingénieur des travaux.

18. Pour le premier niveau, l'ADRAO n'exerce aucun contrôle sur les candidats, et certaines stations ont émis l'avis que ces derniers pourraient recevoir une meilleure formation sur place, où ils se familiariseraient avec les problèmes locaux. Cette solution atténuerait en outre les difficultés créées par un cours commun, le personnel de certains centres devant être libéré à un moment important du programme de recherche pour pouvoir suivre le cours.

19. Quant au programme de six mois, le premier cours a eu lieu à l'IITA et l'ADRAO a demandé qu'il soit organisé chaque année. Mais l'IITA, étant donné ses engagements pour la formation à d'autres cultures, ne peut assurer qu'un cours tous les deux ans. Cela a conduit l'ADRAO à proposer la création, à son siège, d'un local où serait dispensé le cours de six mois, mais jusqu'à présent seul le Fonds Koweïtien a versé une contribution (150.000 dollars) en vue de sa construction.

#### RECOMMANDATIONS EN VUE DU RENFORCEMENT DE LA DIRECTION DE LA RECHERCHE AU SEIN DE L'ADRAO

20. L'ADRAO, étant donné la façon dont elle a été constituée, est aux prises non seulement avec les problèmes que rencontre tout centre essayant de réaliser un programme dans une région où les programmes de recherche nationaux laissent généralement à désirer, mais aussi avec les difficultés que pose une structure administrative dotée de trop nombreux comités. Au départ, ces comités peuvent inconstamment jouer un rôle utile, mais ils ne peuvent se substituer à des chercheurs planifiant et exécutant un programme sur le terrain.

En outre, ils ne font que rendre plus difficile l'établissement d'un ordre des priorités en matière de recherche, car à chaque réunion apparaissent de nouvelles recommandations et de nouveaux projets qui, pour intéressants qu'ils soient, sont impossibles à réaliser, compte tenu des ressources existantes. Malgré cela, l'ADRAO est parvenue à lancer un programme de recherches dans la région; il n'est pas très élaboré, mais donne néanmoins une idée de ce qui peut être fait. Si l'ADRAO devait être privée de son rôle en matière de recherche, les centres, l'IRRI et l'IITA auraient beaucoup plus de difficultés à fonctionner efficacement dans cette région.

21. La mission estime qu'il serait utile de restructurer le département de la recherche de l'ADRAO, de façon qu'il puisse jouer un rôle croissant dans la région, à savoir:

- a) aider à renforcer les programmes de recherche nationaux;
- b) effectuer des recherches sur les possibilités d'adaptation du riz dans certains centres-clés, là où la production de riz pose des problèmes particuliers;
- c) collaborer étroitement avec l'IRRI et l'IITA, de façon que les travaux de base de ces centres puissent être modifiés efficacement en faveur d'une amélioration de la production de riz; et
- d) organiser des activités de formation pour le personnel de recherche et de production, pour que la formation soit associée étroitement aux problèmes que posent les systèmes de production de riz en Afrique de l'Ouest.

22. La mission propose donc que le programme de recherches de l'ADRAO soit réorganisé de façon que les programmes W-1 à W-4 lui soient intégrés, et de façon que soit établi un ordre de priorités, compte tenu des ressources susceptibles d'être fournies par les donateurs qui contribuent au programme de recherches de l'ADRAO ou envisagent de le faire.

23. A cette fin, l'ADRAO devra améliorer sa méthode d'établissement des programmes et des budgets, et recruter, pour une période d'au moins deux ans, un directeur de la recherche expérimenté qui travaillera avec M. Will, coordonnateur des recherches. Ce faisant, elle pourra mettre au point un programme intégré, établir des priorités, élaborer une manière d'opérer qui assure la coordination des centres nationaux et le recrutement du personnel nécessaire. Les centres, de leur côté, devraient travailler par l'intermédiaire de l'ADRAO plutôt qu'en dehors de celle-ci. On peut espérer que, grâce à cette réorganisation, l'ADRAO aura suffisamment de temps pour mettre au point ses programmes et instaurer le climat de confiance nécessaire pour que les donateurs accordent leur plein appui. La mission a attiré l'attention du Secrétaire exécutif de l'ADRAO sur la nécessité de renforcer les services scientifiques et le budget de l'ADRAO pour gagner la confiance des donateurs. On trouvera à l'Annexe IV le mandat du directeur de la recherche.



24. La mission a également souligné la nécessité pour l'ADRAO de confier la responsabilité de la planification et de l'établissement du budget au coordonnateur afin que ce dernier supervise comme il convient ce programme de recherches.

#### INTEGRATION DES PROGRAMMES W-1 à W-4

25. L'intégration de ces programmes sera une tâche hautement prioritaire de la restructuration proposée ci-dessus. Parmi les problèmes à envisager figurent notamment:

- a) Un travail de sélection. Comme l'indique l'Annexe I, un gros travail de sélection est en cours dans plusieurs stations, mais des ressources supplémentaires sont nécessaires pour l'étude de certains problèmes importants; il s'agit notamment de la sélection en vue de la résistance au froid, afin d'obtenir des variétés qui pourront être utilisées pendant l'hiver dans le nord du Sénégal, en Mauritanie et en Gambie, ainsi que de la résistance à la toxicité du fer. En ce qui concerne ce dernier point, des travaux satisfaisants sont effectués à Suakoko (Libéria); il importe qu'ils soient poursuivis. La sélection pour la tolérance à la salinité et à l'acidité seront effectués à Rokupt; ces recherches devraient revêtir un grand intérêt en Sierra Leone, en Guinée, en Gambie, au Sénégal septentrional et dans certains secteurs du fleuve Sénégal. Le programme consacré à Bouaké et par l'IITA à la riziculture en sec et au riz pluvial devrait étudier le problème essentiel de la sélection en vue de la résistance à la piriculariose. La Mali constitue une région de grande importance, où l'on a besoin de riz d'immersion profonde et de riz flottant. Pour l'instant, les moyens prévus pour la sélection du riz à la station de Mopté sont limités, et le programme global devrait envisager d'y installer un sélectionneur.
- b) Lutte contre les adventices. Les principaux problèmes, dans ce domaine, sont posés par le riz sauvage au Sénégal septentrional et en Mauritanie, et par les adventices dans les zones de riz pluvial. En ce qui concerne le riz irrigué, le riz inondé et le riz de mangrove, les agriculteurs ont des systèmes qui leur permettent de lutter contre les adventices. Le problème du riz sauvage au Sénégal est particulièrement important si l'on veut développer la mécanisation. Quant aux adventices dans les zones de riz inondé, l'essai réalisé à Sefa montre qu'aucun des herbicides actuellement disponibles n'est aussi efficace que le désherbage manuel. Ce dernier dépend des effectifs de main-d'oeuvre employés, et toute étude des adventices dans les zones de riz inondé devraient comprendre des recherches sur l'input travail des agriculteurs. Les problèmes des adventices sont essentiellement fonction de l'endroit; les programmes de recherche devront donc être établis en conséquence.



- c) Fertilité des sols. Il faudrait étudier l'utilisation des roches phosphatées locales, en particulier dans les vallées intérieures où les sols sont acides et très pauvres en phosphates. Jusqu'à présent, les phosphates solubles semblent plus efficaces que les roches phosphatées locales insolubles, mais il serait probablement utile d'étudier ces dernières de façon plus approfondie. Un autre problème posé par la fertilité des sols est la mise en valeur des sols acides sulfatés qui sont communs en Sierra Leone, en Guinée, et au Sénégal septentrional. Jusqu'à présent, les systèmes d'exploitation des agriculteurs semblent aussi valables que tout ce que les chercheurs peuvent imaginer. On peut lutter contre l'acidité en utilisant d'importantes fumures de chaux, mais c'est une opération peu rentable, car la chaux doit être importée. Il faut trouver d'autres moyens de mettre en valeur ces sols en mettant à profit le lessivage des eaux de pluie ou de la mer.
- d) Prédateurs. Les insectes térébrants causent des dégâts importants, en particulier dans le cas du riz flottant. Compte tenu des niveaux actuels de production de la région, le meilleur moyen de lutter contre ce problème est de sélectionner des variétés plus tolérantes que les variétés disponibles actuellement. A cet égard, le croisement d'Oryza glaberrima et d'Oryza sativa peut donner des hybrides intéressants.

26. En intégrant les programmes W-1 à W-4, on devrait viser à ce que certaines stations aient suffisamment de compétences scientifiques pour assurer la bonne réalisation d'un programme plutôt que pour essayer de résoudre tous les problèmes que pose la production en Afrique de l'Ouest. Il est donc souhaitable de construire dans la région un petit nombre de centres valables. Richard Toll, Sefa et Djebilor au Sénégal, Kaedia en Mauritanie, Sapu en Gambie, Maéti au Mali, Rokupr en Sierra Leone, Suakoko au Libéria, Bouaké en Côte d'Ivoire, ainsi que l'IITA pourraient être envisagés. Ces stations, dotées du personnel et du matériel nécessaires, devraient être capables de faire face aux principaux problèmes posés par la culture du riz en Afrique de l'Ouest.

#### LIENS ENTRE LES DEPARTEMENTS DE LA RECHERCHE ET DU DEVELOPPEMENT

27. L'ADRAO a également l'avantage - dont ne sauraient se prévaloir toutes les institutions - d'avoir un département du développement qui s'intéresse aux projets de mise en valeur du riz dans la région; ce département devrait être en mesure de faire savoir à celui de la recherche de l'ADRAO quand la recherche appliquée est nécessaire et quand il y a des goulots d'étranglement par manque de connaissance ou de renseignements. Il pourrait lui être particulièrement utile en lui indiquant comment améliorer son efficacité et en définissant l'attitude des agriculteurs à l'égard des nouvelles méthodes de production. Il devrait également être en mesure de quantifier de façon plus précise les principaux types de production de riz et de déterminer dans quels domaines des progrès semblent les plus probables. Il devrait enfin s'efforcer d'établir les besoins



de formation des pays de la région et en informer le département de la recherche, de façon que soient organisés des programmes de formation appropriés aussi bien au nombre de stagiaires qu'au type de formation requise.

#### VULGARISATION

28. On ne saurait nier qu'il y a encore un écart considérable entre ce qui a été réalisé dans les stations de recherches et ce que font les agriculteurs; la mission a d'ailleurs pu s'en convaincre lors de ces visites à certaines stations. Néanmoins, il sera de plus en plus nécessaire à l'avenir de faire bénéficier les agriculteurs des résultats obtenus dans les stations de recherches; pour l'instant, ce rôle ne semble peut-être pas incomber à l'ADRAO, mais plutôt aux programmes de recherches nationaux; l'ADRAO pourrait toutefois être amenée à prendre certaines initiatives en cette matière; le programme de formation, qui prépare d'abord les stagiaires au travail dans les stations de recherches, pourrait être élargi de façon à les préparer à un travail d'expérimentation et de démonstration en milieu paysan.

#### GESTION FINANCIERE

29. Lors de l'examen des pratiques financières de l'ADRAO, la mission a considéré que sa tâche essentielle était:

- a) d'évaluer dans quelle mesure les méthodes de gestion financière appliquées actuellement assurent une bonne gestion des fonds fournis par les donateurs, et
- b) de formuler des recommandations si elle estimait que des améliorations étaient nécessaires.

On trouvera ci-après l'opinion de la mission sur les principaux éléments du système de gestion financière de l'ADRAO (comptabilité et vérification interne des comptes; planification, programmation et budget; et rapports financiers - y compris le rapport de vérification externe).

#### Comptabilité et vérification interne des comptes

30. Au cours de ses dix-huit premiers mois d'activité, le service de comptabilité de l'ADRAO a eu plus que sa part de problèmes de mise en route. Le premier Chef de l'administration et des finances et le Chef comptable initial n'ont pas été capables d'organiser et de mettre en oeuvre efficacement le système de comptabilité "importé" de la FAO qu'a adopté l'ADRAO, ni d'établir de méthodes budgétaires de base.

31. A la suite de discussions avec les vérificateurs extérieurs (une firme ghanéenne), lors de son premier contrôle au début du printemps 1973, l'ADRAO a demandé à une firme d'experts comptables libériens de mettre en



place un système comptable plus utilisable. Cette firme présenta ses recommandations en juillet, et l'on commença peu de temps après à convertir les comptes dans le nouveau système. Ce travail était en cours en octobre 1973, quand fut nommé, grâce à une subvention du PNUD, l'actuel Chef de l'administration et des finances, qui prit des mesures supplémentaires pour mettre de l'ordre dans les comptes de l'ADRAO. Avec l'aide d'un membre du personnel détaché de la firme ghanéenne d'experts comptables, il entreprit de rapprocher tous les états bancaires depuis la création de l'ADRAO, et d'analyser les déboursements antérieurs par projet et par origine afin de reconstruire les comptes dans le système automatisé mis au point par la firme libérienne. Cette tâche ne fut achevée qu'à la mi-septembre 1974, peu de temps avant l'arrivée de la mission.

32. Grâce à ces mesures, l'ADRAO possède maintenant un système comptable tout à fait satisfaisant qui a) classe et enregistre correctement les transactions suivant l'origine des fonds, le projet et l'activité, l'emplacement et l'activité, et l'objet des dépenses, et b) est capable de transmettre à la direction de l'ADRAO et aux donateurs les renseignements financiers essentiels qu'ils peuvent demander.

33. Nous appuyant sur notre examen du système de vérification interne des comptes et du contrôle des recettes et des paiements de la caisse, nous estimons que dans l'ensemble les méthodes employées fournissent des garanties suffisantes et devraient assurer l'intégrité des documents comptables. Il y a toutefois un secteur des paiements (avances sur essais dans le cadre du programme W-1) où les méthodes comptables et le contrôle requièrent un peu plus d'attention. L'ADRAO a pour habitude de faire aux instituts de recherches des avances représentant 75 à 80 % du coût prévu des essais sur le terrain, et demande que les instituts rendent compte de ces avances lorsque les essais sont achevés en soumettant un rapport spécial (voir Annexe V). Le plus souvent, ce rapport n'est accompagné d'aucune pièce justificative, et l'ADRAO donne son approbation sur la seule foi de la signature d'un responsable de l'institution d'exécution. En outre, il est difficile d'obtenir ces rapports en temps voulu. La plupart de ceux qu'a examinés la mission avaient six mois de retard ou plus et étaient incomplets (le montant des avances n'était pas indiqué, le nom des membres du personnel n'était pas mentionné, etc.). Dans l'un des pays, les rapports ont un an de retard et sont encore attendus.

34. Etant donné que quelque 275.000 dollars, soit 50 % des subventions à W-1, sont actuellement déboursés pour des essais, nous estimons indispensable que l'ADRAO renforce ses méthodes comptables. Un certain nombre de mesures possibles ont été discutées avec le Chef de l'administration et des finances, ainsi qu'avec le Secrétaire exécutif; elles sont indiquées dans les recommandations.

#### Budget

35. En partie parce que les premiers responsables des finances étaient incompétents, et en partie parce que les responsables actuels s'emploient à classer les registres comptables, l'ADRAO n'a pas encore de système budgétaire



efficace. Il y a toutefois une série détaillée de tableaux indiquant le montant des dépenses afférentes au personnel et aux autres postes nécessaires pour chaque programme ou activité (le Secrétariat, le Programme de développement et les programmes de recherche W-1 à W-4) au cours de la période 1974-78, mais comme certains éléments importants de la majorité des programmes ne sont pas financés, ou le sont en partie seulement, ces tableaux donnent une combinaison de coûts théoriques et de coûts budgétisés. En outre, les programmes qui disposent de fonds comportent des éléments dont le financement devient caduc à différents intervalles de temps. En conséquence, le concept de budget annuel approuvé, accompagné d'un plan financier, fait défaut. Les conversations qu'a eues la mission avec le personnel financier et le Secrétaire exécutif l'ont fait ressortir clairement; dans les descriptions du programme de travail de l'ADRAO, les opérations réelles (financées) n'étaient pas toujours nettement distinguées des aspirations.

36. Dans la pratique, la direction de l'ADRAO présente chaque année à son Conseil d'administration, par l'intermédiaire du Comité consultatif du Conseil, un budget détaillé (financé par les Etats-membres) pour le Secrétariat et une description de l'aide effectivement reçue des divers donateurs au cours de l'année écoulée, aussi que les montants attendus pour les années à venir. Toutefois, cette présentation est trop incomplète; elle ne donne pas une image globale du programme de travail envisagé par l'ADRAO pour l'année à venir et ne met pas l'exercice budgétaire dans la perspective du plan à plus long terme. Etant donné la nature de la présentation budgétaire, il semble que le Conseil d'administration n'ait pas à juger ou à approuver l'ensemble du budget sur une base annuelle et que, de ce fait, le Conseil ne dispose pas de base de comparaison pour évaluer les résultats annuels dans la perspective des objectifs à long terme ni les résultats en matière de coûts par rapport à un budget approuvé.

37. Outre le budget détaillé qu'elle présente au Secrétariat, l'ADRAO fournit aux donateurs potentiels un budget détaillé concernant les programmes qu'on leur demande de financer. Lorsqu'un accord est conclu avec un donateur, qui semble en mesure d'influencer ou de modifier sensiblement le programme financé, le budget convenu est enregistré en totalité dans les comptes de l'ADRAO, mais ne correspond pas à un exercice donné.

38. La mission considère que l'absence d'un système conduisant à l'établissement d'un budget annuel pour toutes les activités de l'ADRAO, et qu'approuverait le Conseil d'administration, est une des principales faiblesses de la gestion financière de l'ADRAO. Il est essentiel de faire un effort dans ce sens, pour que le Groupe consultatif puisse déterminer le niveau de l'aide à accorder à l'ADRAO.

#### Rapports financiers

39. Etant donné les problèmes que pose le système comptable, l'ADRAO n'a pas été en mesure de préparer des rapports financiers internes en 1974 (le dernier bilan des essais date de novembre 1973). Un bilan des essais jusqu'au 15



septembre 1974 était toutefois en préparation au moment de notre visite, et depuis la fin septembre l'ADRAO ne devrait pas avoir de difficultés à préparer régulièrement des rapports financiers internes.

40. Depuis qu'existe l'ADRAO, des commissaires aux comptes extérieurs (Issifu Ali and Company - firme ghanéenne d'experts comptables) ont préparé trois rapports:

- a) un rapport daté du 4 décembre 1973, adressé au Président du Conseil d'administration, et attestant le montant total des dépenses pour la période de 22 mois s'achevant le 30 septembre 1973 (voir l'Annexe VI);
- b) un rapport daté du 31 mai 1974, présentant au Secrétaire exécutif des observations sur les comptes de l'Association; et
- c) un projet de rapport de vérification abrégé, portant sur les 25 premiers mois de fonctionnement de l'ADRAO, c'est-à-dire jusqu'au 31 décembre 1973; ce rapport, adressé au Conseil d'administration, sera daté et signé quand celui-ci aura approuvé les comptes en novembre 1974. Il comprend un bilan et un compte d'exploitation normalisés, ainsi qu'un relevé plus détaillé des dépenses, classant le personnel et les coûts par grandes fonctions (voir Annexe VII).

41. Comme l'exigent divers accords d'aide, l'ADRAO transmet à chaque donateur des rapports périodiques indiquant l'utilisation des fonds.

42. En ce qui concerne les rapports financiers internes et les rapports destinés à chaque donateur, nous estimons que le système comptable utilisé actuellement et le système de rapports budgétaires esquissé à l'Annexe VIII et décrit dans les recommandations ci-dessous, seront pleinement satisfaisants.

#### RECOMMANDATIONS VISANT AU RENFORCEMENT DE LA GESTION FINANCIERE DE L'ADRAO

43. Au cours de son voyage, la mission a discuté avec le Secrétaire exécutif de l'ADRAO et avec son personnel des moyens d'améliorer la gestion financière; diverses propositions ont été faites:

i) Comptabilité et contrôle interne des comptes. La mission a suggéré à l'ADRAO:

- a) de réduire les avances sur les coûts attendus ("budgétisés") des essais du programme W-1 et de demander une justification plus complète des décaissements avant de débloquent de nouveaux fonds;
- b) d'envoyer ses experts financiers dans les stations dont les rapports ne sont pas reçus dans un délai raisonnable après l'achèvement des essais; et

- c) d'envoyer systématiquement ses experts financiers ou un vérificateur local engagé à titre contractuel dans les stations afin de déterminer les "coûts standard" qui pourraient être utilisés comme base dans les contrats à forfait - la moitié payable à l'avance, et la moitié payable à la fin des essais.

ii) Planification, programmation et budget. La mission a suggéré que les difficultés de gestion financière pourraient être atténuées si l'on établissait des procédures:

- a) associant officiellement le budget annuel à la planification et à la programmation interne à court et moyen terme de l'institution. A cet égard, nous suggérons que soit créé un mécanisme officiel, qui fixerait les objectifs à moyen terme. Plus précisément, nous proposons qu'au mois de juillet de chaque année, le Secrétaire exécutif communique aux directeurs de programmes des directives générales indiquant la situation de l'ADRAO, les priorités et les obstacles probables aux cours des deux ou trois années suivantes, et leur demande de soumettre des programmes de travail répondant au mandat de l'ADRAO et à ces directives. Nous suggérons également que les services financiers établissent le coût du programme de travail proposé par les directeurs, et qu'une réunion officielle des directeurs de programmes et du Directeur des finances et de l'administration soit organisée début septembre pour examiner les budgets et les programmes, afin de déterminer la dimension de ceux qui seront soumis à l'approbation du Conseil d'administration;
- b) fournissant au Conseil d'administration un budget annuel qui indique les opérations et les dépenses proposées par l'ADRAO pour l'année à venir et place ce programme de travail et ce budget dans le cadre de séries chronologiques rétrospectives et prospectives. A cet égard, nous recommandons vivement que l'ADRAO adopte la présentation du budget utilisée par tous les centres internationaux. Tout en reconnaissant que l'ADRAO n'est pas strictement comparable par sa structure et ses finances aux centres internationaux habituels, nous pensons que cette présentation montrerait de façon satisfaisante le travail de l'ADRAO à son organe directeur. Elle a en outre l'avantage de s'aligner sur celle des centres internationaux, ce qui facilitera l'examen par le GC des besoins de l'ADRAO. Dans le sens de cette recommandation, nous avons établi une série de tableaux budgétaires (voir Annexe VIII), que nous suggérons à l'ADRAO d'utiliser pour présenter son budget 1975 au Conseil d'administration et pour accompagner, comme document supplémentaire, le budget 1976 afférent au programme W-1, budget qu'elle présentera au Groupe GC en mars 1975;



- c) assignant des responsabilités en matière de gestion budgétaire aux directeurs de programmes. Nous proposons que, une fois le budget annuel approuvé par le Conseil d'administration, les montants fournis soient alloués par le Secrétaire exécutif aux directeurs de programmes et que les directeurs reçoivent régulièrement un rapport les informant de leurs responsabilités, ainsi que de la répartition des dépenses et engagements. L'Annexe IX ci-jointe donne un exemple de rapports qui répondraient à cette recommandation et à d'autres besoins liés aux rapports financiers internes. Nous proposons ce système particulier de rapports internes car nous croyons savoir que l'ADRAO ne tient pas actuellement de comptes de ses engagements et des procédures connexes, et qu'il faudra attendre un certain temps, probablement jusqu'au milieu de 1975, avant que les données relatives aux engagements soient incluses dans ces rapports.

iii) Rapports financiers. En ce qui concerne le rapport de vérificateur indépendant, nous estimons que le mandat concernant le rapport annuel devrait être rédigé, ou du moins approuvé, par le Comité consultatif du Conseil d'administration, et que la présentation du rapport corresponde à celle du budget soumis au Conseil. Cette procédure est conforme à ce qui est fait dans le système des centres internationaux. Un modèle de rapport de vérification est proposé à l'Annexe X.

17 octobre 1974

## ANNEXE IV

### MANDAT DU DIRECTEUR DE LA RECHERCHE

Le directeur de la recherche exercera les responsabilités et fonctions suivantes:

1. En collaboration avec le coordonnateur de la recherche de l'ADRAO, il déterminera les priorités, élaborera un programme de recherches global et préparera les budgets, qui seront présentés au Conseil d'administration.
2. Il établira des liens étroits avec les centres, en particulier l'IRRI, l'IITA et l'IRAT.
3. Il se rendra dans les stations de recherches des pays-membres, y établira des contacts, se familiarisera avec leurs programmes et utilisera ces renseignements comme base de la planification des programmes de recherches coopératifs de l'ADRAO avec les pays intéressés.
4. Il participera, avec le coordonnateur de la recherche, aux entretiens avec les pays donateurs concernant le soutien à apporter au programme de recherches.

Le directeur de la recherche devra posséder des qualifications et une expérience internationale équivalentes à celle d'un chercheur principal dans un centre international.

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CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

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October 17, 1974

TO: Members of the Consultative Group  
FROM: Executive Secretariat  
SUBJECT: WARDA -- Report of Secretariat Mission

1. Attached is the draft report of a mission which visited WARDA in September 1974 as a result of the discussions during the 1974 International Centers Week on WARDA's program and operations. The report "Proposals for Strengthening the Research and Financial Management of the West Africa Rice Development Association" is intended as a basis for discussion of WARDA under Item 2b of the Provisional Agenda for the Consultative Group meeting to be held on October 30-31, 1974.

2. The report is an interim one in that, while it is based on the joint field work and discussions of the three mission members, there has not been time to clear a final text with the Secretariat of the Technical Advisory Committee which was represented by Mr. Devred. It is circulated now in the interest of helping Consultative Group members reach a decision on financing for WARDA in 1975. The text has also been sent to the TAC Secretariat and to the Chairman of TAC, Sir John Crawford, who will attend the Consultative Group meeting.

Attachment



PROPOSALS FOR STRENGTHENING THE  
RESEARCH AND FINANCIAL MANAGEMENT  
OF THE  
WEST AFRICA RICE DEVELOPMENT  
ASSOCIATION (WARDA)

DRAFT REPORT OF THE SECRETARIAT MISSION

(J. K. COULTER, SCIENTIFIC ADVISER, C.G. SECRETARIAT,  
M. E. RUDDY, REPRESENTING THE PROGRAMMING AND BUDGETING  
DEPARTMENT OF THE WORLD BANK, AND  
R. DEVRED, REPRESENTING THE TAC SECRETARIAT)

October 17, 1974

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## SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

### CONCLUSIONS

1. Rice in West Africa is grown over a very wide range of environments and in a great variety of farming systems.
2. Any one station can cover only a very limited part of these conditions so that at least five adequately staffed research stations are needed to carry out adaptive research.
3. These stations would investigate local weed, pest, disease, soil fertility and water problems and adapt IRRI and IITA materials and production techniques to overcome these problems.
4. Several of the national programs in the area are under-staffed, under-equipped and with large requirements for research on other crops to undertake adequate programs on rice. Thus a cooperative program directed by experienced researchers is likely to make more progress than a series of un-coordinated national programs.
5. The Association has now been functioning for nearly three years and experience to date shows that certain changes are necessary, especially restructuring of the management of research, budgeting and training functions. Given time to carry out these actions, WARDA should be in a position to make substantial contributions to rice production techniques in the region.

### RECOMMENDATIONS

1. WARDA should appoint a research manager with adequate experience in international agricultural research.
2. The research manager and the research coordinator should develop an integrated plan showing priorities for research, staffing patterns and budgetary requirements for an overall program which would eventually integrate the present loosely defined W-1 to W-4 programs. Such a plan must take into account such constraints as the availability of staff, the availability of finance, the need to establish the scientific and financial soundness of the organization, the need to build up infrastructures at some of the stations and the logistics of organizing a research program over such a wide geographic area. This program should indicate the benefits to the individual countries in the region as well as to the region as a whole.
3. In 1975 the CGIAR should continue its support for WARDA at about the 1974 level. Such support would be used to maintain the more important parts of the W-1 program and finance the appointment of the research manager.



4. WARDA should develop the concept of an annual approved budget and a related financial plan. The budgeting should be linked to the short and medium term internal planning and programming of the institute. The Governing Council should be presented with an annual budget that shows WARDA's proposed operations and costs for the year ahead. For these purposes, the budget format in use throughout the system of international centers should be adopted.

5. Budget management responsibilities should be assigned to program managers.

6. The training program for staff to operate in rice research and production systems in the region should be critically examined. The need for different types of training, the availability of staff with the requisite basic training, the need for facilities and staff, taking into account those already present in the region should be assessed. The cooperation of IITA and IRRI in overall planning of this program is strongly recommended.

7. The role of the various committees should be re-assessed with a view to reducing their number. Provided that the re-structuring of the management of research and budgeting is done, the Steering Committee could be allowed to lapse and the Scientific and Technical Committee strengthened by the addition of two scientists from outside the region, one of whom might act as chairman.

8. The progress in carrying out these recommendations should be assessed in mid-1975.

PROPOSALS FOR STRENGTHENING THE RESEARCH AND FINANCIAL MANAGEMENT  
OF THE  
WEST AFRICA RICE DEVELOPMENT ASSOCIATION (WARDA)

Draft Report of the Secretariat Mission

INTRODUCTION

1. The mission, consisting of J. K. Coulter, Scientific Adviser, Consultative Group Secretariat, and R. Devred (FAO) representing the TAC Secretariat, arrived in Dakar on September 15 and left Monrovia on September 29. They were joined by Mr. M. E. Ruddy, representing the Programming and Budgeting Department of the World Bank, in Monrovia on September 23. The mission visited rice research stations in Senegal, The Gambia, Mali and Liberia; details of the mission's itinerary are given in Annex I.

2. Although rice consumption in West Africa is small compared with that in Asia, it is still a very important crop in most parts of the region and whilst comparable ecological zones exist in Asia there are very significant differences in the importance of these. Thus, mangrove swamps are important in Sierra Leone, The Gambia and Senegal; semi-flooded, inland valley swamps with very poor soils, some with high iron toxicity, are important in Sierra Leone, The Gambia and Nigeria. Non-flooded, rain-fed rice is grown in most countries of the region. Irrigated areas in Senegal and The Gambia have cool winters and hot summers with high insolation and low rainfall, whilst other countries have heavy rainfall, with one or two peaks and with much cloud cover during the growing season. Rice production systems in West Africa are often quite different from those in Asia for the cultivation of the crop is closely allied with farming of dry-land crops.

3. There is no doubt therefore that a great deal of adaptive research is needed on the IRRI materials and on the production techniques which have been developed there. In larger rice producing countries this is obviously part of the national program but the scattered nature of production in West Africa and the limited national programs fully justify a cooperative regional effort, provided such an effort has an appropriate structure for planning and managing the budgeting and research programs.

4. Following the decision of the international conference in September, 1969, to create the WARDA organization, a number of meetings and seminars were held and consultants helped identify problems and list priorities in order to institute research programs. In March, 1971, these were stated in a medium-term work program (Annex II) and were subsequently compressed into 14 research projects for presentation to the first session of the Governing Council in May, 1972. At the instance of TAC, further discussion between the Executive Secretary of WARDA and the representatives of IRRI, IITA and IRAT led to the decision to have a research program consisting of coordinated trials, referred to as W-1, and three special research projects, W-2, W-3, and W-4.



5. The political, scientific, technical and financial management of this unique organization is shared by four committees whose mandates are executed by the Executive Secretary. These consist of:

- (1) the Governing Council, comprising one member from each of the 14 participating countries listed in Annex III; such members are usually at the Director of Agriculture or Ministerial level.
- (2) the Scientific and Technical Committee consisting of five persons from the participating countries at the Director level and two outside scientists.
- (3) the Advisory Committee with six scientists from within the region, some concerned with rice research, and 11 from outside the region representing donors or potential donors; IRRI, IRAT and IITA are also represented.
- (4) the Steering Committee (set-up at the instance of the Consultative Group) consisting of 8 scientists from within and outside the region.

6. In general terms, the Governing Council has responsibility for the overall policy of WARDA, the Scientific and Technical Committees endorses the research program, the Advisory Committee the financial program, and the Steering Committee is intended to over-see the conduct of the research program. The Council and its Committees meet at least once per annum. Obviously, such a large management structure is expensive and WARDA's budget for travel of headquarters staff and meetings is \$65,200 for 1974.

7. The WARDA program is organized in two action departments: research and development. The development department initially contained the training section but this has been transferred to the research department. Our mission was concerned only with the latter department.

#### THE RESEARCH PROGRAM

8. Initially a very large research program was put forward for WARDA's activities but eventually this was cut down to four components:

- (a) W-1, coordinated variety and fertilizer trials;
- (b) W-2, varietal improvement;
- (c) W-3, soil fertility; and
- (d) W-4, plant protection.

#### The W-1 Program

9. The W-1 program is the only program concerning the Consultative Group at the moment, which provided \$575,000 in 1974 and which has been requested to provide \$790,000 in 1975. WARDA's own documentation on the W-1 program has already been circulated to members of the Consultative Group and of TAC.



Basically the fertilizer trials use a standard design allowing the inclusion of two locally recommended fertilizer dressings and are laid down at appropriate stations for rainfed, irrigated, deep-flooded and floating rice throughout the region. The varietal trials cover the same ecological regions and use short, medium and long duration varieties; these are chosen from between 60 and 70 varieties, both local and introduced into the region. Standard conditions for experimental design, planting techniques, growth and yield recording, etc., are laid down so that results from such sites are comparable.

10. The work is coordinated centrally in Monrovia where there is a research coordinator, a soil fertilizer trials coordinator, a varietal improvement coordinator, and facilities for the statistical analysis of the results.

11. At each site there are two monitors or field assistants who have undergone the three weeks training program by WARDA in Monrovia and who supervise the day-to-day work on the trials. At some stations they are under the direct control of a research scientist, at others they work without such day-to-day supervision and may be visited only at infrequent intervals by a research scientist.

12. Up to the present all the trials have been on research stations; WARDA does not have trials in farmers' fields. Twenty-eight research or experimental stations, including IITA, in 12 countries are taking part in the project. This mission was able to visit seven of these sites in Senegal, The Gambia, Mali and Liberia. It is probable that the conclusions drawn from the visits to these sites would be generally applicable.

13. From these visits we have concluded that the trials are being laid out and conducted according to the directions given in the program. Designs are followed carefully, the trials are properly labeled and cultural conditions are good. We conclude therefore that the results of the trials at the experimental stations, where there is a scientist in charge, have good reliability.

14. We do not have such faith in the results from sites where there is no scientist in charge. At one such site, Richard Toll, the fertilizer trial had to be resown because of poor irrigation management by the field assistant. We were not able to visit the Kogoni and Sicasso stations in Mali which are supervised only by field assistants with infrequent visits from the research scientist at Mopti, 700 km distant; we feel that adequate supervision cannot be given at such long range.

#### Advantages of the W-1 Program

15. Although the success of the W-1 program has depended on the presence of scientists at the stations rather than control exercised from headquarters in Monrovia, the program has nevertheless had a useful impact.

(a) Considering the problems involved in financing the program, the scattered nature of the trials and the geographic area covered, the program has got off to a good start.

(b) It has introduced, to the government policy makers, the idea that cooperation in a region with small scientific resources is beneficial.



- (c) It has brought the rice scientists in the region together so that they can meet and discuss mutual problems.
- (d) It has provided training for a number of assistant grade staff in the conduct and management of field experiments on rice. This experience will be invaluable for new programs including those in farmers' fields.
- (e) It has emphasized the need for considerable modification of the IRRI varieties if they are to be successful in West Africa. Perhaps the most striking example of the need for this is the destruction of IRRI varieties by blast in the rainfed conditions in Suacoco, Liberia, whereas locally selected varieties have shown almost total immunity.
- (f) It has emphasized the need for much adaptive research because of the wide range of climatic, soil and biological conditions in West Africa.

#### Problems in the W-1 Program

16. During the visits to the experiment sites a number of shortcomings were noted. Most of these should be remedied as the program develops, but they are recorded here to indicate the problems which the program has encountered.

- (a) Most stations have had fertilizer trials for some years and the response to fertilizers is already generally known. A standard trial cannot provide sufficient flexibility to allow for the wide range of fertilizer needs between say the high sunshine areas of northern Senegal and Mauretania and the low sunshine areas of Liberia and Sierra Leone. The value of standard fertilizer trials carried out over a wide range of ecological conditions is limited and whilst these trials have been useful in introducing WARDA to the region this program should be restructured in the near future.
- (b) Whilst the varietal trials do serve a useful purpose in showing how rainfall, for example, can influence blast attack, the varieties cannot cover all the ecological areas; for example, cold tolerance for the winter crop is of major importance in Mauretania, northern Senegal and The Gambia, but of no interest elsewhere.
- (c) Scientists at some stations regard the trials as a rather unwelcome addition to their already over-loaded work program. In other words, they feel that they have had to use scarce resources on projects which they consider as having rather low priority. An example of this is the fact that a number of stations have brought in varieties from outside the WARDA program to include in their own programs. This problem can be overcome in the future by planning to have a more flexible program based on cooperation rather than complete coordination.



- (d) Seeds supplied by WARDA sometimes arrive late, in too small quantities, with poor germination and with mixed strains. Length of growing season was sometimes wrongly classified. These are problems which should be overcome as WARDA gets its seed treatment and distribution facilities, now nearly complete, into action. It should then be able to send out properly treated pure seeds in time for planting.
- (e) It has been stated that all imports of rice seeds into West Africa should go through the quarantine station at Ibadan. At the moment there is, in fact, a considerable amount of direct importation into countries of the region. This is not to say that such imports are irresponsible for the seeds come in accompanied by the appropriate phytosanitary certificates but it does suggest that, if WARDA is to take sole responsibility for importation and quarantine of rice seeds in the region, facilities will have to be greatly improved and the process speeded up. In this connection, funds for a glass house at Ibadan are being provided by WARDA.
- (f) The detailed measurements to be made at each trial, for example the grain to straw ratio, moisture content of grain, require space and facilities which some stations do not possess; these additional measurements put another burden on the limited resources of the research station.
- (g) In addition to paying the salaries of the two field assistants at each site, WARDA pays \$300 for each experiment. Some stations say that this is insufficient to cover costs of an experiment, but this is obviously a reflection of the way in which costs are calculated; by including additional overheads, higher costs per experiment can be shown. Some stations regard the WARDA trials as an additional source of revenue. The longer-term policy should be that the countries themselves finance the trials and pay the salaries of the field assistants; this should apply particularly to any trials being done outside the stations on the farmers' fields. The cost of the trials in 1974 was budgeted at \$275,000, i.e., about 50 per cent of the total W-1 WARDA budget. Recommendations for more stringent financial controls on the disbursements for these trials are given in the section on strengthening the financial management.
- (h) Problems of supervising these trials from headquarters in Monrovia have not been fully appreciated. It is beyond the resources of the present staff to make a useful visit to each station at critical times like planting, during the growing season and near harvest. Until a proper program for visits is set out, the amount of time involved and the work to be done in connection with these trials cannot be realistically assessed; this should form part of the overall research planning program.



- (i) A varietal testing program in the absence of a varietal improvement or breeding program is of limited value; hence the necessity to integrate this part of W-1 into the W-2 program.
- (j) Success of any program of coordinated or cooperative trials depends on the presence of competent scientists at experiment stations in the countries of the region. This gives rise to anomalous situations in which the stations which need the trials least do the best job whereas those stations with few scientific resources can do very little in the way of helping with the trials. Furthermore, several stations still depend heavily on expatriate scientists, whose position can change rapidly so that stations which are well supplied with scientists at one time can be without them a few months later. This will necessitate the strengthening of some stations, possibly under WARDA auspices. Where scientific supervision is weak, different types of trials may be necessary with reliance placed on quantity rather than quality.

#### TRAINING

17. This program has been transferred from the development department to the research department. WARDA has organized training at two levels:

- (a) A three-week course in Monrovia for the field assistants; these trainees then return to their own country and work in the W-1 program.
- (b) A six-month training program in rice production for trainees having a qualification equivalent to ingenieur de travaux, that is a middle grade agronomist.

18. For the first kind of training, WARDA has no control over the type of candidates and views were expressed at some research stations that such staff could be better trained on-site where they would thus be familiar with local problems. This would also alleviate the difficulty created by a common course whereby staff from some centers have to be released at a critical time in the research program in order to fit in with the course.

19. As regards the six-month training program, the first course was run at IITA and WARDA has requested that such courses take place annually. However, IITA, in view of its commitments for training in other crops, can offer only a course in alternate years. This has led WARDA to propose setting up facilities for the six-month training at its headquarters in Monrovia, but so far only the Kuwait Fund has provided finance (\$150,000) towards the establishment of these facilities.

#### RECOMMENDATIONS FOR STRENGTHENING THE RESEARCH MANAGEMENT IN WARDA

20. WARDA, because of the way in which it has been constituted, suffers not only from problems that any center encounters in trying to operate a program in an area where national research programs are generally weak, but also functions with an administrative structure which contains too many committees.



Initially such committees can undoubtedly contribute, but they are no substitute for scientists planning and operating a program in the field. Committees also exacerbate the difficulty of deciding on research priorities because each meeting tends to come up with new recommendations and new projects, themselves worthy, but impossible to institute with the existing resources. In spite of this, WARDA has managed to start a research program in the region; this is not a highly developed program but it is nevertheless an indication of what can be done. If WARDA were to be deprived of its role in research, then the centers, IRRI and IITA, would find it more difficult to operate effectively in this area.

21. The mission believes that there is a good case for re-structuring the research department of WARDA in such a way that it can play an increasingly important role in the region. This role may be defined as:

- (a) helping to strengthen the national research programs;
- (b) carrying out adaptive research in certain key centers where there are specific problems in rice production in the region;
- (c) collaborating closely with IRRI and IITA so that the more basic work of these centers can be modified effectively for improving rice production; and
- (d) organizing training activities for staff involved in both research and production so that the training is closely related to the problems of rice producing systems in West Africa.

22. The mission therefore suggests that the research program of WARDA be re-organized in such a way that the W-1 to W-4 programs can be integrated and that a set of priorities be worked out within this integrated program, taking into account the resources that are likely to be available from the donors who are contributing or propose to contribute to the research program of WARDA.

23. To do this effectively, WARDA will need to improve its program and budget process and recruit an experienced research manager for a period of at least two years to work with Dr. Will, the Research Coordinator. By doing so it can develop an integrated program, establish priorities, work out a modus operandi for coordinating with the international centers and ensure the recruitment of the right staff. The Centers, on their part, would work through WARDA rather than outside it. With this reorganization, it is hoped that WARDA would be given sufficient time to develop programs and to establish the confidence which the donors require before they will fully support such programs. The mission emphasized to the Executive Secretary of WARDA the importance of strengthening the scientific and budgeting capability of WARDA in order to attract donor finance. Terms of reference for the research manager are given in Annex IV.

24. The mission also emphasized the need for WARDA to devolve the responsibility for planning and budgeting the research program to the Research Coordinator so that he has adequate control over this program.

#### INTEGRATING THE W-1 TO W-4 PROGRAMS

25. Integration of these programs will have a high priority for the re-structured management. Amongst the problems requiring consideration are the following:



- (a) Adaptive breeding work. As outlined in Annex I, a considerable amount of breeding work is under way at several stations, but some important problem areas need additional resources. These include breeding for cold tolerance to give varieties which can be used in the winter period in northern Senegal, Mauritania and The Gambia and tolerance to iron toxicity. There is some good work on the latter at Suakoko in Liberia; continuation of this work is important. Breeding for tolerance to salinity and acidity will be done at Rokupr. This work should be of value in Sierra Leone, Guinea, The Gambia and southern Senegal, and parts of the Senegal River Valley. The program for dryland, rainfed rice at Bouaké and IITA should take care of the major problem of breeding for resistance to blast. An area of great importance is in Mali where deep water and floating rices are needed. At the moment there is little capability for rice breeding at the Mopti station and a plant breeder should be stationed there as part of the overall program.
- (b) Weed control. Major problems in weed control are those of wild rice in northern Senegal and Mauretania, and weed problems in rainfed rice. As far as irrigated, flooded and swamp rice are concerned, the farmers themselves have systems to deal with weeds. The problem of wild rice in Senegal is important especially if mechanized cultivation is to be expanded. As far as weeds in rainfed rice are concerned, the trial at Sefa has shown that none of the presently available herbicides are as effective as hand-weeding. The use of hand-weeding depends on the amount of labor involved and a study of weeds in rainfed rice should include investigations on the farmers' labor inputs. Weed problems are location-specific, and research programs will need to be set up accordingly.
- (c) Soil fertility. The use of local rock phosphates should be investigated especially in the inland valleys where the soils are acid and very poor in phosphate reserves. So far soluble phosphates appear more efficient than the insoluble local rock phosphates but further investigations on the residual value of the latter would appear to be worthwhile. Another problem in soil fertility is the management of the acid sulphate soils which are common in Sierra Leone, Guinea and southern Senegal. So far the farmers' management system on these soils appears to be as good as anything the scientists can devise. The acidity can be controlled by using large dressings of lime, but this is uneconomic as it has to be imported. Other ways of managing these soils using leaching with rain water or sea water need to be devised.
- (d) Pests. Stem borers cause serious damage especially to floating rice. At present levels of production in the region, the best means of dealing with the pest problems is the breeding of varieties which are more tolerant than those presently available. In this connection, crossing Oryza glaberrima and Oryza sativa may produce some useful hybrids.



26. In integrating the W-1 to W-4 programs, the aim should be to make certain that some stations have enough scientific competence to cover one program well rather than trying to cover all the problems of rice production in West Africa. Thus it is desirable to build up a few good centers in the area. Richard Toll, Sefa and Djebilor in Senegal, Kaedia in Mauritania, Sapu in The Gambia, Mopti in Mali, Rokupr in Sierra Leone, Suakoko in Liberia, Bouaké in the Ivory Coast as well as IITA could be considered. These stations, with adequate staff and equipment, should be able to cover the major problems of rice growing in West Africa.

#### LINKAGES BETWEEN THE RESEARCH AND DEVELOPMENT DEPARTMENTS

27. WARDA has also an advantage, not available at other institutes, of a development department which is concerned with projects for developing rice throughout the region; this department should be able to inform the research department of WARDA where applied research is needed and where there are bottlenecks because of lack of knowledge and information. The development department could be particularly helpful to the research department by indicating ways in which the work of the latter could be made more effective and by defining farmers' attitudes to adoption of improved methods of production. The development department should also be able to quantify more clearly the major types of rice production and identify areas where progress is most likely to be made. This department should also be able to outline the training needs of the countries in the region and to convey these to the research department so that appropriate training programs can be organized as regards both the numbers requiring to be trained and the type of training needed.

#### EXTENSION

28. There is no doubt that there is even now a considerable gap between what has been done in the research stations and what the farmers are doing; and during visits to a number of research stations this gap was emphasized. Nevertheless, there will be an increasing need in the future to get the results of the research stations out to the farmers; at the moment this would not seem to be the role of WARDA but rather of the national research programs; nevertheless, WARDA may have to take some initiative in organizing ways of doing this; the training program whereby staff are being trained initially to work on research stations could be extended to train such staff for experimental and demonstration work in farmers' fields.

#### THE FINANCIAL MANAGEMENT

29. In its review of WARDA's financial practices, the mission considered its central task to be:

- (a) To assess the extent to which the financial management procedures in use would ensure that funds received from donors are well managed, and
- (b) To make specific recommendations if it felt improvements are needed.

Our assessment of the major elements of WARDA's financial management system (accounting and internal accounting controls; planning, programming and budgeting; and financial reporting - including the external audit report) are discussed in turn.



Accounting and Internal Accounting Controls

30. During its first year and a half of operations, WARDA's accounting office had more than its fair share of start-up problems. The first Chief of Administration and Finance, and the original Chief Accountant, were not able to organize and implement satisfactorily the "imported" FAO accounting system adopted by WARDA, nor were they able to establish basic budgeting procedures.

31. Following discussions with the external auditors (a Ghanaian firm) at the time of their first audit in the early spring of 1973, WARDA engaged a local Liberian public accounting firm to set up a more manageable accounting system. Recommendations for a new system were available in July 1973 and shortly thereafter work began on converting the accounts to the new system. This work was ongoing in October 1973 when the current Chief of Administration and Finance was appointed, under a UNDP grant, and he took additional steps to put WARDA's accounts in order. With the assistance of a staff member seconded from the Ghanaian auditing firm, work began on reconciling all bank statements since WARDA's inception and analyzing prior disbursements by project and source of funds for the purpose of reconstructing the accounts under the automated system developed by the Liberian public accounting firm. This work was completed only in mid-September 1974 just prior to the arrival of the mission.

32. As a result of these actions, WARDA now has a fully satisfactory system of accounting which (a) properly classifies and records transactions according to source of funds, project or activity, location of activity, and object of expenditure, and (b) is capable of meeting the basic needs of WARDA's management and donors for financial information.

33. Based on our review of the system of internal accounting controls and checks over the receipt and disbursement of cash, we believe that in general the procedures in use provide adequate safeguards and should ensure the integrity of accounting records. There is, however, one area of disbursements (advances on trials under the W-1 program) where the accounting procedures and controls need further attention. It is WARDA's practice to advance to national research institutions 75-80 per cent of expected field trial costs and require that the institutions account for these advances at the completion of the trials by submitting an "Imprest" Report (see sample attached as Annex V). In most cases, no supporting documentation is provided with the report and its acceptance by WARDA rests on the fact that a responsible official of the executing institution signs the report. Apart from the problem of suitable documentation for the report, it has proven difficult to get completed reports on time. Most of the reports reviewed by the mission were six months or more in arrears and incomplete (amounts advanced not shown, name of staff employed not provided, etc.). Reports for trials in one country are a year in arrears and still outstanding.

34. Since some \$275,000 or 50 per cent of the W-1 grant is being disbursed on trials, we believe it is necessary for WARDA to tighten its accounting procedures with respect to these disbursements. A number of possible steps were



discussed with the Chief of Administration and Finance and with the Executive Secretary, and these are outlined in the recommendations.

### Budgeting

35. Partly because the original financial officers lacked the capacity, and partly because the officers now in post have been preoccupied with sorting out the basic accounting records, WARDA does not as yet have an effective budgeting system. There is, however, a detailed set of tables showing the cost of staff and other requirements for each program or activity (the Secretariat, the Development Program and the Research Programs - W-1 through W-4), for the period 1974-78, but since important parts of most programs are not funded, or only partially funded, the tables show a combination of notional and "budgeted" costs. Moreover, the programs that are funded have elements in them for which the funding lapses at different time intervals. In consequence, the concept of an annual approved budget and a related financial plan is lacking. This was apparent from conversations with both the financial staff and the Executive Secretary; in describing WARDA's work program, actual (funded) operations were not always clearly separated from aspirations.

36. In practice, WARDA's management presents annually to its Governing Council, through the Advisory Committee of the Council, a detailed budget for the Secretariat (which is funded by the member states) and a description of the actual support received from various donors during the past year and amounts expected for the coming years. However, the presentation is narrowly focused; it does not present a total picture of WARDA's proposed program of work for the coming year nor does it put the budget year in the perspective of the longer term plan. Given the nature of the budget presentation, it seems that the Governing Council is not asked to judge or endorse the total budget on an annual basis and, consequently, the Council has no basis for assessing annual performance toward longer term objectives or cost performance against an approved budget.

37. In addition to the detailed budget for the Secretariat, WARDA provides potential donors with a detailed budget for programs they are asked to fund. Once agreement is reached with a donor, who seems to be able to influence or alter substantially the program being funded, the agreed budget is recorded in total in WARDA's accounts, but without regard to a specific financial year.

38. The mission regards the absence of a sound budgeting system, leading to an annual budget for all of WARDA's activities approved by the Governing Council, as a major weakness in WARDA's financial management system. Improved budgeting is a basic element in determining the level of support for WARDA by the Consultative Group.

### Financial Reporting

39. Because of problems with the accounting system, WARDA has not been able to prepare regular internal financial reports throughout 1974 (the last trial balance was prepared in November 1973). However, a trial balance through September 15, 1974, was in preparation at the time of our visit and from the end of September WARDA should not have difficulty in preparing some regular internal financial reports.



40. Since its inception, WARDA's external auditors (Issifu Ali and Company - a Ghanaian firm of Chartered Accountants) have prepared three reports:

- (a) a report dated December 4, 1973, to the Chairman of the Governing Council certifying to the total level of expenditure for the 22-month period ending September 30, 1973, (copy attached as Annex VI);
- (b) a report dated May 31, 1974; to the Executive Secretary commenting on the Association's accounts; and
- (c) a draft standard short-form audit report to the Governing Council, to be dated and signed when the accounts are adopted by the Council in November 1974, covering the first 25 months of WARDA's operations ended December 31, 1973. This report (copy attached as Annex VII) includes a standard balance sheet and statement of revenue and expenditure, as well as a more detailed schedule of expenditures showing staff and cost by major function.

41. As required under various grant agreements, WARDA provides periodic reports to individual donors accounting for charges to grants.

42. With respect to internal financial reporting and external reporting to individual donors, we believe that the accounting system now in use together with the system of budget reports outlined in Annex VIII, and described in the recommendations below, will be fully adequate.

#### RECOMMENDATIONS FOR STRENGTHENING THE FINANCIAL MANAGEMENT OF WARDA

43. During the visit, the mission discussed with the Executive Secretary of WARDA and his staff ways in which the financial management could be improved; such improvements should include the following:

(i) Accounting and Internal Accounting Controls. The mission suggested that WARDA consider:

- (a) Advancing less of the expected ("budgeted") cost of the W-1 trials and require more complete substantiation of disbursements before additional funds are released;
- (b) Sending financial staff to visit individual stations where reports are not received within a reasonable period of time after the completion of trials; and
- (c) having the finance staff, or a contracted local auditor, systematically visit field stations for the purpose of determining "standard costs" which could be used as a basis for fixed price contracts - half payable in advance and half payable at the completion of the trials.



(ii) Planning, Programming and Budgeting. The mission suggested that financial management problems could be corrected by establishing procedures that:

- (a) Formally link annual budgeting to the short and medium term internal planning and programming of the institution. With respect to this procedure we suggested that a formal mechanism be established for setting medium term goals for the institution. More specifically, we suggest that in July of each year the Executive Secretary distribute general guidelines to program managers outlining WARDA's current situation, priorities and likely constraints over the next two or three years, and call for the managers to submit programs of work that are responsive to WARDA's mandate and to the current guidelines. We further suggested that the financial staff be asked to price out the program of work proposed by managers, and in early September a formal program/budget review session be held with the program directors and the Director of Finance and Administration for the purpose of sizing the program and budget to be brought forward to the Governing Council for approval.
- (b) Provide the Governing Council with an annual budget that shows WARDA's proposed operations and costs for the year ahead and places this program of work and budget in the context of a retrospective and perspective time series. With respect to this requirement we strongly recommend that WARDA adopt the budget formats used throughout the system of international centers. In making this recommendation, we recognize the fact that WARDA is not strictly similar in structure and finance to the normal international centers, but we nevertheless believe that this form of presentation would provide relevant disclosure of WARDA's work to its governing body. Moreover, it has the added advantage of aligning WARDA's budget presentation with those of the international centers which will facilitate the CG's consideration of WARDA's requirements. In line with this recommendation, we have drawn up a set of budget tables (attached as Annex VIII) which we suggest WARDA use in presenting its 1975 budget to the Governing Council and as a supplementary document in presenting its 1976 budget for the W-1 program to the CG Group in March of 1975.
- (c) Assign budget management responsibilities to program managers. We suggest that once the annual budget is approved by the Governing Council, the amounts provided (that is, funded) be allocated by the Executive Secretary to program managers and that managers receive a regular report informing them of the provisions they are responsible for and charges and commitments against various allocations. Annex IX attached provides a sample set of reports that would adequately satisfy this recommendation and other requirements for internal financial reporting. In suggesting this particular system of internal reporting we understand that WARDA does not now have a commitment ledger and related procedures and that it would be some time, probably the middle of 1975, before commitment data could be included in these reports.



(iii) Financial Reporting. With respect to the report of the independent auditor, we believe that the terms of reference for the annual audit should be drafted or at least approved by the Advisory Committee of the Governing Council and that the format of the audit report conform with the budget presentation made to the Council. This procedure is in line with what is being done in the system of international centers. A suggested audit report format for WARDA is provided in Annex X.

October 17, 1974

## ANNEX I

### MISSION ITINERARY

#### 1. Bambey, Senegal - September 16. M. Gora Bey

This station, though not concerned specifically with rice, is the central research station for Senegal and gives specialized support in the major disciplines. There is a program to study the physiology of drought tolerance in rice (M. Dancette). This is examining the drought sensitivity of some common varieties used for rain-fed cultivation. In addition rainfall probabilities at each of the research stations in Senegal are being studied so that drought tolerance can be related to the probable incidence of dry periods of varying lengths. There are no WARDA trials at this station.

#### 2. Richard Toll, Senegal - September 17. M. Aubin

This station was started in order to support rice production in the Senegal River basin. There is now a large UNDP project (FAO/OMVS) working on the Senegal River basin study and this has an agronomic research component at Guédé, near Richard Toll and at Kaédi in Mauritania, where there is an IBRD project covering 6,000 ha.

Richard Toll is now being taken over for sugar cane production but 30 ha. have been left for WARDA's seed multiplication activities and the WARDA W-1 trials have been allocated 1/2 ha. All the Richard Toll research activities, on both rice and upland crops, are being transferred to Fenaye, 15 km east of Richard Toll but this site lacks buildings and equipment. The Senegal River basin is typical of only a small area of rice production in West Africa, but yields in summer can be very large, because of the high insolation. However, there is little to be gained from coordinated trials at either Richard Toll or Kaédi as the ecological conditions have little in common with those elsewhere in the region, **except** perhaps Sapu in The Gambia. Weeds, particularly wild rice, and cold tolerance for winter rice are the important problems. With the lack of facilities at Richard Toll and the fact that there is an UNDP agronomist at Kaédi it is suggested that these two stations could have a low priority in the W-1 program for the coming year.

#### 3. Djebilor, Senegal - September 23. M. Arie

This station is concerned with developing mangrove swamps, with breeding swamp varieties, and with insect pests and soil fertility. There is a large program for introduction of varieties from within and from outside the region and there is also a crossing program to breed varieties for local conditions. An entomologist is studying rice pests, particularly stemborers and the possibilities of their biological control.



WARDA has fertilizer and variety trials and there is also one trial on insecticides. None of the varieties in the WARDA saline tolerance trial had survived the saline conditions (5 millimhos conductivity in the soil solution when the 21 day old plants were transplanted.)

The station has quite a large program of fertilizer trials which overlap many of the tests in the WARDA fertilizer trial. There are two other WARDA variety trials, one with short-term, one with medium-term varieties; as with the fertility trials however these variety trials cover much the same range of varieties as do those in the station's own program. In a discussion on the role of WARDA, the scientists at the station expressed the hope that individual scientists, participating in the program, would have more opportunities to attend meetings.

4. Sefa, Senegal - September 24.      M. Pirot

This station is concerned with rain-fed rice and is representative of a large area of plateau land in the approximately 1,200 mm rainfall belt. Rice is grown in rotation with groundnuts and maize or millet. Desirable characters in selected varieties are short growing season and resistance to blast, though the virulence of blast appears much less severe than at Suakoko (Liberia). Weeds are a major problem, 60 man-days/ha. being required by the farmers for weeding. Cyperus rotundus, which is extremely deep rooting, (> 80 cm) on these soils is especially difficult. A herbicide trial showed that some of the herbicides destroyed the rice; hand-weeding was the only effective treatment. To develop a successful herbicide would require a good deal of investigation on timing of application as well as type of herbicide.

Amongst the varieties, the locally made cross, G-302, seemed to be as successful as any of the introduced varieties. Because of good rainfall distribution, crops are very promising this year and yields of up to 4 tons/ha are expected. Farmers' yields in the areas are of the order of 800-900 kg/ha. There is a strong response to fertilizer but leaching of N and K fertilizer is said to be severe. In the WARDA fertilizer trial the locally recommended mixture was about as good as any of the other treatments.

Because of its unimodal rainfall pattern the work on rain-fed rice at this station strongly complements the work at IITA with its bimodal rainfall pattern.

5. Jenoi, The Gambia - September 22.      Mr. Janneh

This is a small station with no resident scientist. WARDA has only two variety trials, one medium-term, deep flooded, the other long-term, deep flooded, at this station where the need is for salinity tolerance. Rice is transplanted in late August-early September when the salinity has been diluted sufficiently to prevent damage. In the absence of varieties with adequate tolerance of salinity and deep water there is unlikely to be any response to fertilizers.



6. Sapu, The Gambia - September 22.

Mr. Ter Vrugt

As part of the IBRD project, the Gambian Government has retained ILACO to carry out a research and development program at Sapu station and in the adjacent region. The station grows irrigated and rain-fed rice. "Rain-fed" in the Gambian context means swamp rice which may be flooded periodically, in contrast to the "rain-fed" or upland rice of southern Senegal, Nigeria, etc., which is grown on plateaux which never flood. Under Gambian conditions, rain-fed trials are very difficult, for the length of time and depth of flooding has a profound effect on time to maturity and yield. Plots at lower lying points were ready for harvest whilst others were still green. Generally however short-term varieties do best.

The WARDA trials at this station include short-term, shallow water, short-term, deeper water, medium-term deep water and long-term deep water type. The varieties had not always been clearly distinguished however and some of the short-term varieties should have been included with the long-term ones and vice versa. In the standard WARDA fertilizer trial, the maximum N levels were too low for the ecological (insolation) conditions in irrigated rice in The Gambia.

Weeds are not a major problem in irrigated rice and can be controlled by cultural practices and available herbicides. In the "rain-fed" areas they are much more of a problem due to the unpredictable water regime.

Like northern Senegal, cold tolerant varieties for winter cropping are a major requirement in the irrigated area of The Gambia.

6. Mopti, Mali - September 19.

Mr. Vuong

Due to aircraft delays there was time only to discuss the experiments with the scientist in charge but not to visit the experimental site.

In conjunction with ORM (Organisation Riz Mali) there is an IBRD-financed polder project near Mopti and this has some agronomic input. Apart from this there is only the IRAT agronomist but the agreement with IRAT is likely to finish soon so that he may be withdrawn.

A solution to the problems of Mopti and rice research in Mali will not be easily found. On the one hand the Mopti area represents an extensive zone of deep water and floating rice of great importance to Mali but potentially of much greater importance to large regions beyond Mali. On the other, the town and station are very remote, facilities are limited and a viable research unit would require extensive support. Nevertheless, research to produce higher yielding varieties, with faster stem elongation



to cope with fast rising floods, later maturing to avoid ripening whilst the land is still flooded and stemborer resistance, would fill a major gap largely neglected in West African rice research. Wild rice is also a problem in this region.

However, it should be the aim of WARDA and the donors to design a realistic program of financing and staffing which would place a viable research unit at Mopti and which would have adequate facilities and infrastructure to support it.

8. Suakoko, Liberia - September 27. Mr. Tubman

Both swamp and upland rice are being grown at this station. Upland rice is grown as part of the slash and burn agriculture in Liberia, being the first crop after the forest fallow. Swamp rice forms a more permanent type of agriculture in the inland valleys. Soils in these valleys often contain toxic amounts of iron and are also very low in phosphates.

The station has an UNDP rice agronomist, a rice breeder from IITA, financed by an IBRD project, and a Liberian rice agronomist. It is thus relatively well staffed and has a good program on rice improvement. Selection for tolerance to iron toxicity has revealed several very promising varieties. WARDA has two rain-fed variety trials, one for early maturing and one for medium-term varieties. These trials have shown outstanding damage by blast on the IRRI varieties but good tolerance by the local selections.

The station has made a collection of almost 800 lines of O. glaberrima and the hope was expressed that the Genes Board would take an interest in this collection.

With suitable varieties and some fertilizer, particularly the development of an infrastructure for fertilizer delivery, the agronomist considers that there is a very good potential for increased rice production in the inland valleys of Liberia and adjacent territories.

ANNEX II

MEDIUM-TERM WORK PROGRAM

LIST OF PROPOSED PROJECTS AND PRIORITIES  
(As reported in March 1971 conference on WARDA)

1. Plant breeding
  - Drought resistant high-yielding upland varieties;
  - Upland and lowland varieties easy to mill;
  - Blast and brown leaf spot resistant varieties;
  - Lodging resistant varieties.
2. Plant physiology
  - Photoperiodism;
  - Effects on yield of planting date;
  - Best planting date for different varieties.
3. Plant protection
  - Plant pathology (emphasis on blast and brown leaf spot);
  - Entomology (study of the effects of systemic and tropical insecticides);
  - Birds and rodents control;
  - Weed control (use of herbicides).
4. Agriculture
  - Spacing and sowing rate;
  - Studies on crop rotation and use of fertilizers as a way to discontinue shifting agriculture.
5. Development and Soils
  - Soil surveys and land classification to determine the best rice soils within the region;
  - Fertilizer trials and fertilizer response experiments;
  - Study of soil conservation problems under rainfed rice cropping;
  - Specific soil fertility problems on rice soils;
  - Soil management problems;
  - Chemical and physical investigations in connection with soil survey, soil fertility and irrigation development work;
  - Salinity problems;
  - Inventory of water resources in order to identify the possibilities of extending irrigated rice;
  - Study of the best methods to develop lowlands and tidal swamps.



MEDIUM-TERM WORK PROGRAM

ANNEX III

LIST OF PROPOSALS AND PRIORITIES  
(As reported in March 1981 Conference on WADDA)

LIST OF PARTICIPATING COUNTRIES

Cote d'Ivoire

Dahomey

The Gambia

Ghana

Guinee

Haute Volta

Liberia

Mali

Mauritanie

Niger

Nigeria

Senegal

Sierra Leone

Togo

ANNEX IV

TERMS OF REFERENCE FOR THE RESEARCH MANAGER

The research manager would have the following responsibilities and functions:

1. In cooperation with the research coordinator of WARDA, assess priorities, formulate an overall research program and prepare budgets for presentation to the Governing Council.
2. Establish close links with the Centers, especially IRRI and IITA, and with IRAT.
3. Visit the research stations in member countries, establish contacts there, become familiar with their programs and use this information as the basis for planning WARDA's cooperative research programs with the countries concerned.
4. Participate with the research coordinator in discussions with donors on support for the research program.

The research manager would require qualifications and international experience at the level of a Senior Scientist in an international center.

\*\*\* Included in printing, binding, harvesting & general maintenance.  
\*\* Included in printing, binding, harvesting & general maintenance.  
US\$150.00 per month per field  
US\$100.00 for investments  
US\$100.00 for Operational Costs



## ANNEX V

## PROVISIONAL STATEMENT OF EXPENDITURE

COORDINATED TRIALS 1974

(1 JANUARY - 31 JULY 1974)

---

Country: Currency used: Exchange rate:  
 Station: Variety trials, number:  
 Fertilizer Trials, number: Total number of Trials:  
 Average size of a coordinated field trial:  
 Total area of the coordinated trials at this station:

---

I. OPERATIONAL COSTS (of all coordinated trials at this station).  
Total

1. Actual cost of land preparation
2. Actual cost of labour\*\*  
     Number of man-days      Rate per day
3. Fertilizers:  
     Type:                      Quantity:              Unit Price:
4. Insecticides:  
     Type:                      Quantity:              Unit Price:
5. Miscellaneous:\*\*\*

SUB TOTAL ACTUAL OPERATIONAL COSTS

II. ACTUAL INVESTMENTS: (for all coordinated trials at this station).

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>
-------------	-----------------	-------------------

SUB TOTAL ACTUAL INVESTMENTS

III. FIELD ASSISTANTS: (actually employed for coordinated trials)

Name:                      Monthly salary:  
                                     Cost for 6 months:

Name:                      Monthly salary:  
                                     Cost for 6 months:

SUB TOTAL ACTUAL FIELD ASSISTANTS COSTS

ACTUAL TOTAL COST OF COORDINATED TRIALS AT THIS  
 LOCATION

Name & Title of            )  
 Responsible Officer)  
 Signature & Office Stamp  
 Date:

---

\* Budgeted amounts per trial: US\$300.00 for Operational Costs  
   US\$100.00 for Investments  
   US\$250.00 per month per Field  
   Assistant.

\*\* Employed in planting, weeding, harvesting & general maintenance.  
 \*\*\* Includes: stakes, labels, bags, rope, etc.

# ISSIFU ALI & CO.

CHARTERED ACCOUNTANTS

PRINCIPAL

ISSIFU ALI, M.A.C.A., A.C.I.S.

Telephone 24674

Cables & Telegrams: ALICO

ARKU HOUSE  
158A/1, LIBERTY AVENUE  
P. O. BOX 6037  
ACCRA, GHANA  
WEST AFRICA

Our Ref. .... IA/swc. ....

4th December, 1973.

The Chairman,  
Governing Council,  
WARDA.,  
E.J. Roye Memorial Building,  
P.O. Box 1019,  
MONROVIA, LIBERIA.

Dear Sir,

CERTIFIED EXPENDITURE  
TWENTY-TWO MONTHS ENDED SEPTEMBER 30, 1973.

We arrived in Monrovia on October 20, 1973, at the request of the Executive Secretary to prepare a certified statement of expenditure for the twenty-two months ended September 30, 1973. We attach hereto the said statement.

2. In carrying out this exercise we

- (a) Examined the system of internal control in operation,
- (b) Vouched expenditure incurred for selected periods within the period under review on the basis of the effectiveness or otherwise of 2(a) above, and
- (c) Thoroughly examined selected accounts for the twenty-two month period to ensure that the entries made therein were properly charged.

3. The final audit of WARDA's accounts will be conducted in April next year. We shall then submit, in addition to the accounts, our auditors' report on the financial operations of WARDA for the period ending December 31, 1973.

/2....



ISSIFU ALI & CO.

PRINCIPAL

4. In the course of our interim audit we carried out an appraisal of WARDA's accounting system and procedures. We have submitted to the Executive Secretary our findings and recommendations for the improvement of the existing system.

Yours faithfully,

*Issifu Ali*

ISSIFU ALI & CO.

Encl:

Dear Sir,

Reference is made to your letter of the 10th December 1973.

We arrived in Harare on Monday 11th December 1973 at the request of the Executive Secretary to prepare a preliminary statement of expenditure for the two-month period ended December 31st 1973. We also visited the said department.

In carrying out this exercise we:

- (a) Examined the system of internal control in operation.
- (b) Checked expenditure incurred and all other relevant information obtained under review on the basis of the attached statement of expenditure of that period, and
- (c) Thereafter obtained necessary accounts for the complete month period of review that the matters were therein set out.

The final audit of WARDA's accounts will be completed in 1974. We shall submit, in addition to the accounts for the year, a report on the financial operations of WARDA for the period ending December 31st 1973.

STATEMENT OF EXPENDITURE

PERIOD ENDED SEPTEMBER 30, 1973

SECRETARIAT EXPENDITURE

\$368,126.07

PROJECT EXPENDITURE

USAID

\$243,430.50

THE NETHERLANDS

14,680.22

258,110.72

TOTAL SECRETARIAT AND  
PROJECT EXPENDITURE:

\$626,236.79

We certify that the expenditure above is a true and fair view of the financial transactions of WARDA for the period ended September 30, 1973.



.....  
ISSIFU ALY & Co.  
AUDITORS



ANNEX VII

REPORT OF THE AUDITORS TO

THE GOVERNING COUNCIL OF

THE WEST AFRICA RICE DEVELOPMENT ASSOCIATION

We have examined the attached Balance Sheet and Statement of Income and Expenditure and have obtained all the information and explanations necessary for the purpose of our audit.

In our opinion, and to the best of our knowledge and belief, the attached Balance Sheet and the Income and Expenditure Statement together with the notes thereon show a true and fair view of the state of the Association's affairs for the twenty-five months ended 31st December, 1973, and of its fund balances for the period ended on that date.

.....  
CHARTERED ACCOUNTANTS

WEST AFRICA RICE DEVELOPMENT ASSOCIATION

BALANCE SHEET AS AT 31ST DECEMBER, 1973

CURRENT ASSETS

	\$
Cash in Hand and at Bank	45,746
Time Deposit Account	146,475
Receivables - Member States (Note 3)	216,521
Other Receivables (Note 4)	34,690
Prepaid Expenses	2,163
Repatriation Fund Investment	2,781
Total Current Assets	<u>\$449,376</u>

FIXED ASSETS (Note 2)

Motor Vehicles and Bicycles	15,918
Office Equipment, Furniture and Fixtures	46,365
Bungalow Equipment, Furniture and Fixtures	15,467
Total Fixed Assets	<u>\$78,751</u>

Total Assets \$528,127

LIABILITIES

Accounts Payable	41,144
Contributions in Advance - Member States	34,573
Total Liabilities	<u>\$75,717</u>

FUND BALANCES

General Fund	424,134
Reserve Fund	15,475
Unexpended Grants	7,105
Repatriation Fund (Note 5)	7,696
Total Liabilities and Fund Balances	<u>\$528,410</u>

Total Liabilities and Fund Balances \$528,127



WEST AFRICA RICE DEVELOPMENT ASSOCIATION  
STATEMENT OF INCOME AND EXPENDITURE FOR  
25 MONTHS ENDED 31ST DECEMBER, 1975

	GENERAL FUND \$	RESERVE FUND \$	REPATRIATION FUND \$	PROJECTS \$	TOTAL \$
<u>REVENUES</u>					
MEMBERS CONTRIBUTIONS	821,404	-	-	-	821,404
<u>GRANTS (Note 6)</u>					
UNDP Support Contri- bution	477,444	-	-	35,695	513,137
U.S.A.I.D.	-	-	-	280,000	280,000
Netherlands	-	-	-	74,000	74,000
France	-	-	-	20,370	20,370
Ford Foundation	-	-	-	30,000	30,000
Interest on Time Deposit	-	13,475	-	-	13,475
TOTAL REVENUE	<u>1,298,848</u>	<u>13,475</u>	<u>-</u>	<u>440,065</u>	<u>1,752,386</u>
<u>EXPENDITURE (SON.)</u>	<u>874,714</u>	<u>-</u>	<u>(7,696)</u>	<u>432,958</u>	<u>1,299,976</u>
EXCESS OF REVENUE OVER EXPENDITURE - BEING FUND BALANCES	<u>\$ 424,134</u>	<u>\$ 13,475</u>	<u>\$ 7,696</u>	<u>\$ 7,105</u>	<u>\$ 452,410</u>

WEST AFRICA RICE DEVELOPMENT ASSOCIATION  
SCHEDULE OF EXPENDITURE  
FOR THE TWENTY FIVE MONTHS ENDED 31ST DECEMBER, 1973

<b>A. <u>SECRETARIAT EXPENDITURE</u></b>		\$
<b>I Personnel Costs:</b>		
Staff Costs		183,995
Common Staff Costs		90,084
		<u>274,079</u>
<b>II Cost of Common Services and Miscellaneous Expenses:</b>		
Maintenance and Repairs		23,630
Communications and Freights		13,397
Miscellaneous Supplies and Services		19,676
		<u>56,703</u>
<b>III Travel and Missions</b>		
Official Travel		28,950
Meetings and Governing Council		28,104
		<u>57,054</u>
<b>IV Other Charges</b>		<u>9,434</u>
	<b>TOTAL</b>	<b>397,270</b>
	U.N. D.P. Support Expenses	<u>477,444</u>
	<b>TOTAL SECRETARIAT EXPENSES</b>	<b><u>874,714</u></b>
<b>B. <u>PROJECT GRANT EXPENDITURE</u></b>		
<u>U. S. A. I. D.</u>		
Seminars	\$ 33,670	
Training (IITA, Ibadan, & Monrovia)	106,693	
Coordinated Trials	78,786	
Research Coordination	20,366	
Seed Storage Centre	3,657	
Plant Protection	6,308	
Project Design	24,429	
		<u>273,909</u>
<u>NETHERLANDS: Research Coordination</u>		72,986
<u>FRANCE: Seed Multiplication Centre (Richard Toll, Senegal)</u>		20,370
<u>U.N.D.P. SUPPORT: Administration</u>		35,693
<u>FORD FOUNDATION: Training (IITA, IBADAN)</u>		<u>30,000</u>
	<b>TOTAL PROJECT GRANT EXPENDITURE</b>	<b><u>432,958</u></b>



WEST AFRICA RICE DEVELOPMENT ASSOCIATION

NOTES TO THE ACCOUNTS

FOR TWENTY-FIVE MONTHS ENDED 31ST DECEMBER, 1973

1. GENERAL

These are the first accounts to be prepared by the Association and accordingly no comparative figures are given. The accounts cover a period of twenty-five months.

2. FIXED ASSETS

The Association follows the practice like other non-profit making organisations of not providing for depreciation. Fixed Assets are accordingly shown at cost.

3. RECEIVABLES - MEMBER STATES:

Receivables from Members represent outstanding contributions from Member States as at 31st December, 1973. The figure for receivables is made up as follows:-

Dahomey	\$ 44,899
Ghana	51,536
Ivory Coast	1,220
Mali	32,103
Mauritania	59,552
Niger	27,209
	<u>3216,521</u>

As at May 31, 1974, additional \$46,605 had been received from member states - \$41,130 from Ghana and \$5,475 from Mauritania.

4. OTHER RECEIVABLES

Other receivables include \$8,404 representing advances to employees.

5. REPATRIATION FUND

The Association has created a fund to meet repatriation grants due to retiring internationally recruited staff. As at December 31, 1973, the Fund stood at \$7,696. As at the same date \$2,781 of the Fund had been invested in a Savings Account, the balance of \$4,915 to be invested in the 1974 financial year.

STAFF PROVIDENT FUND scheme is also in operation. Each member of Staff contributes 7% of his salary while the Association contributes 14% towards the scheme. When an employee retires or leaves the Association he is paid the total amount contributed by him and the Association, including interest.

6. DONOR COUNTRIES' COMMITMENTS

The commitments of Donor Countries and agencies to the Association, the amounts received and balances outstanding are as follows:-

	AMOUNT COMMITTED	AMOUNT RECEIVED	BALANCES OUTSTANDING
	\$	\$	\$
U.S.A.I.D.	625,000	280,000	345,000
NETHERLANDS	100,000	74,000	26,000
FRANCE	160,000	20,370	139,630
	<u>\$885,000</u>	<u>\$374,370</u>	<u>\$510,630</u>

Unutilised balances are available for use in 1974, in addition to commitments for the year.

The amount received from the Netherlands includes \$45,000 representing the salary of a Research co-ordinator in Monrovia, paid direct by the donor country.

The amount received from France represents the salary of an engineer engaged at the Seed Multiplication centre in Richard Toll, Senegal, paid direct by the donor country. The commitment by France for 1973 is the equivalent FF. 800,000 converted at the rate of FF. 5 = US \$1.

The Netherlands and France have also committed \$75,000 and \$160,000 respectively for the operations of the Association for 1974.

Contributions by UNDP amounts to \$513,137 of which \$477,440 represents Secretariat expenditure and \$35,693 project expenditure.

Ford Foundation has contributed \$30,000 towards training course at IITA in Ibadan, Nigeria.



WARDA  
1975 BUDGET  
Summary of Costs by Organizational Unit  
& Object of Expenditure 1972 - 1978  
(US\$'000)

	Actual		Est. & Budget		Budget 1975	-----Projected-----			5-Year Total 1974/78
	1972	1973	1974 Est.	1974 Budget		1976	1977	1978	
<u>BY ORGANIZATIONAL UNIT</u>									
1. Executive Secretary									
Executive Offices									
Admin. & Finance									
Common Staff Costs									
Governing Council									
Total Direct Costs <sup>a/</sup>									
Capital Items									
2. Communications & Documentation									
Communications									
Documentation									
Common Staff Costs									
Total Direct Costs									
Capital Items									
3. Development Department									
Headquarters Staff									
Field Staff									
Seed Multiplication Center									
Data Processing									
Common Staff Costs									
Total Direct Costs									
Capital Items									
4. Research Department									
W-1 Program									
W-2 Program									
W-3 Program									
W-4 Program									
Common Staff Costs									
Total Direct Costs									
Capital Items									
5. General Operating Costs									
Buildings & Grounds									
Motor Pool									
Communications									
Office & Misc. Supplies									
Common Operating Equipment									
Total Common Costs									
Capital Items									
Total Direct Costs									
Total Capital Items									
<u>BY OBJECT OF EXPENDITURES</u>									
Operating									
Personal Service Costs									
Consultants									
Operational Travel									
Equipment									
Vehicles									
Maintenance & Repair									
Communications & Freight									
Other									
Total Operating									

<sup>a/</sup> Direct costs are defined as the following account numbers taken from WARDA's chart of accounts:

(i) Salary costs	1101-1110
(ii) Common Staff Costs	1201-1213
(iii) Official Travel	3101-3103
(iv) Meeting C. Council	3201-3203
(v) Secretary only	4001-4004

WARDA  
1975 BUDGET  
Summary of Source & Application of Funds  
(US\$'000)

--- Actual -- 1972 1973	----- EST & Budget -----			----- Projected -----		
	1974 (EST)	1974 Budget	1975 Budget	1976	1977	1978

I Summary of Sources and Application of Funds

Total Funds Available:  
Cash Grants to WARDA:  
Member Countries  
UNDP/FAO  
FAO/Assoc.Experts  
France  
France Assoc.Experts  
USAID  
CGLAR  
Total  
Cash Received on Grants  
Grants Receivable at year End  
Earned Income  
Total Funds Available  
Grants in Kind  
Total Resources Available

Application of Funds to operations:  
Executive Secretary  
Communication & Documentation  
Development Department  
Research Department  
General Operating Costs  
Total Operating

Capital Acquisitions:  
Development Department  
Research Department  
Total Capital

Funds Applied to:  
Unexpended balances:  
Member Countries  
UNDP/FAO  
France  
USAID  
CGLAR  
TOTAL APPLICATION OF FUNDS

II. Funds Provided and Expenses by Activity

Executive Secretary & General Overhead  
Member Countries  
UNDP/FAO  
Executive Secretary & Overhead Costs  
Unexpended Balance

Communication & Documentation  
Member Countries  
UNDP/FAO  
Total Expenses  
Unexpended Balance

Development Department  
Member Countries  
UNDP/FAO  
France  
USAID  
Total Expenses  
Unexpended Balance

Research Department  
W-1 (CGLAR)  
W-2 (France Assoc Exp)  
W-3 (France Assoc Exp)  
W-4 (USAID)  
Total Expenses  
Unexpended Balance



WARDA 1975 BUDGET  
Summary Financial Data 1972-1975  
(US\$'000)

	-----Actual-----		Est.	----- Budget -----	
	1972	1973	1974	1974	1975
<u>Current Assets</u>					
Cash					
Receivables:					
Member States					
Donors					
Other					
Prepaid Expenses (Trial Advances)					
Other current assets					
Total Current Assets					
 <u>Fixed Assets</u>					
Office Furniture & Equipment					
Vehicles					
Research Equipment					
Furnishings - Staff Housing					
Buildings					
Land					
Other Fixed Assets					
Total Fixed Assets					
TOTAL ASSETS					
 <u>Liabilities</u>					
Accounts payable - Member Countries					
Accounts payable - Other Donors					
Other Liabilities					
Total Liabilities					
 <u>Capital Balances</u>					
Capital Grants					
Fully Expended					
Unexpended Balance					
Capital Grants in Kind					
Unexpended Operating Grants					
Total Capital Balances					
TOTAL LIABILITIES & CAPITAL					
 <u>Sources of Funds</u>					
Member States					
CGIAR					
Other Donors					
Earned Income					
Total					
 <u>Application of Funds</u>					
Operations					
Capital					
Unexpended Balance					
Total					

WARDA  
1975 BUDGET  
Table of Positions and Manpower

----- Actual -----				----- Est. & Budget -----						----- Projected -----		
1972		1973		1974		1974		1975		1976	1977	1978
Pos.	My	Pos.	My	Pos.	My	Pos.	My	Pos.	My	Pos	Pos	Pos
<u>Executive Secretary</u>												
Senior Staff												
Scientific & Supervisory												
Support												
Total												
<u>Communications &amp; Documentation</u>												
Senior Staff												
Support Staff												
Total												
<u>Development Department</u>												
Senior Staff												
Scientific & Supervisory												
Support												
Total												
<u>Research Department</u>												
W-1 Senior Staff												
Scientific & Supervisory												
Support												
Total												
W-2 Senior Staff												
Scientific & Supervisory												
Support												
Total												
W-3 Senior Staff												
Scientific & Supervisory												
Support												
Total												
W-4 Senior Staff												
Scientific & Supervisory												
Support												
Total												
Total Research Department:												
Senior Staff												
Scientific & Supervisory												
Support												
Total												
Total Staff:												
Senior Staff												
Scientific & Supervisory												
Support												
Total Staff												



WARDA 1975 BUDGET  
Funded and Required Provisions  
(US\$'000)

	1974 Est.	1975 Budget	----- Requested from Member States	FY75 BUDGET Fully Funded by Other Donors	----- New Grants Required
<u>Executive Secretary</u>					
Staff Costs					
Other Direct Costs					
Total					
<u>Communication &amp; Documentation</u>					
Staff Costs					
Other Direct Costs					
Capital Items					
Total					
<u>Development Department</u>					
Staff Costs					
Seed Multiplication Center					
Data Processing					
Other Direct Costs					
Capital Items					
Total					
<u>Research Department</u>					
W-1 Staff Costs					
Training & Seminars					
Plant Quarantine					
Other Direct Costs					
Capital Items					
Total					
W-2 Staff Costs					
Other Direct Costs					
Capital					
Total					
W-3 Staff Costs					
Other Direct Costs					
Capital					
Total					
W-4 Staff Costs					
Training					
Other Direct Costs					
Capital					
Total					
Total Research:					
Operations					
Capital					
Total					
<u>General Operating</u>					
Buildings					
Motor Pool					
Communications					
Office Supplies & Misc.					
Common Operating Equip.					
Total Operating					
TOTAL WARDA					







WARDA  
1975 ACTUAL VS BUDGETED STAFF  
For the Month Ending

.....  
Positions

----- Actual ----- Budget -----  
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec. Original Revised

Executive Secretary

Senior Staff  
Scientific & Supervision Staff  
Support Staff  
Total  
Staff Costs

Communications & Documentation

Senior Staff  
Scientific & Supervision Staff  
Support Staff  
Total  
Staff Costs

Development Department

Headquarters Staff  
Scientific & Supervision Staff  
Support Staff  
Total  
Staff Costs

Research Department

W-1 Program:  
Scientific Staff  
Support Staff  
Total  
Staff Costs

W-2 Program:  
Scientific Staff  
Support Staff  
Total  
Staff Costs

W-3 Program:  
Scientific Staff  
Support Staff  
Total  
Staff Costs

W-4 Program:  
Scientific Staff  
Support Staff  
Total  
Staff Costs

TOTAL STAFF

of which: Senior Staff  
Scientific & Supervisory  
Support

INTERNAL REPORT TO DEPARTMENTS

ANNEX IX  
TABLE 4

1975 BUDGET STATEMENT  
For the Period Ending  
.....  
(US\$'000)

	1975	1975	Actually	Committ.	Total	
	Original	Revised	Expended	Outstanding	Exp. & Comm.	Balance
	Budget	Budget	To date			
<u>Authorized Staff</u>						
Senior Staff						
Scientific & Supervisory						
Support						
Total						
<u>Direct Costs</u>						
Regular Salaries						
Post Adjustments						
Assignment Allowances						
Other Allowances						
Temp. & Overtime						
Contractual Services						
Consultants						
Common Staff Costs						
Operational Travel						
Equipment						
Total Operating						
<u>Capital Items</u>						
(List)						
Total Capital						
TOTAL CAPITAL						
TOTAL BUDGET/COSTS						

ANNEX X  
TABLE 1

Recommended  
Audit Reports  
Certification Required for  
Actual Figures

WARDA  
Balance Sheet  
As of December 31, 1974  
(US\$'000)

----- Actual -----			----- Budget -----	
1972	1973	1974	1974	1975

Current Assets

Cash  
Receivables:  
    Member States  
    Donors  
    Other  
Prepaid Expenses (Trial Advances)  
Other Current Assets  
    Total Current Assets

Fixed Assets

Office Furniture & Equipment  
Vehicles  
Research Equipment  
Furnishings - Staff Housing  
Buildings  
Land  
Other Fixed Assets  
    Total Fixed Assets  
TOTAL ASSETS

Liabilities

Accounts payable - Member Countries  
Accounts payable - Other Donors  
Other Liabilities  
    Total Liabilities

Capital Balances

Capital Grants  
    Fully Expended  
    Unexpended Balance  
Capital Grants in Kind  
    Unexpended Operating Grants  
    Total Capital Balances  
TOTAL LIABILITIES & CAPITAL



Statement of Sources & Application of Funds  
For the Year Ending December 31, 1974  
(US\$'000)

	-----Actual-----			-----Budget----	
	1972	1973	1974	1974	1975
<u>Summary of Sources and Application of Funds</u>					
Total Funds Available:					
Cash Grants to WARDA:					
Member Countries					
UNDP/FAO					
FAO/Assoc. Experts					
France					
France Assoc. Experts					
USAID					
CGIAR					
Total					
Cash Received on Grants					
Grants Receivable at year End					
Earned Income					
Total Funds Available					
Grants in Kind					
Total Resources Available					
<u>Application of Funds to operations:</u>					
Executive Secretary					
Communication & Documentation					
Development Department					
Research Department					
General Operating Costs					
Total Operating					
<u>Capital Acquisitions:</u>					
Development Department					
Research Department					
Total Capital					
<u>Funds Applied to:</u>					
Unexpended balances:					
Member Countries					
UNDP/FAO					
France					
USAID					
CGIAR					
TOTAL APPLICATION OF FUNDS					

- a/ Attach Schedule 1 to show funds provided and costs of individual donor.  
b/ Attach Schedule 2 to show sources and uses of earned income for the current year.

Schedule 1: Funds Provided and Cost of  
Individual Grants for the Year Ending  
December 31, 1974  
(US\$'000)

Grants Approved	Amounts Received	Expenses Charged - Direct Costs								% General Operating To Direct	Unexpend. Balance	Payable To Donors	Transfer- able to Unexpend. Balances
		Executive Secretary	Communication Documentation	Development Department	-----Research Department----- W-1 W-2 W-3 W-4				General Operating				

Member Countries

Dahomey  
Gambia  
Ghana  
Guinea  
Ivory Coast  
Liberia  
Mali  
Mauritania  
Niger  
Nigeria  
Senegal  
Sierra Leone  
Togo  
Upper Volta  
Total

Non Member Donors

UNDP  
FAO  
USAID  
France  
CGIAR  
Etc.

TOTAL

Schedule 2: Detailed Schedule  
Of Earned Income  
For the Year Ending December 31, 1974  
(US\$'000)

<u>Actual</u>	<u>Approved</u> <u>Budget</u>
---------------	----------------------------------

Sources of Earned Income:

Interest on Deposits  
Sale of Crops  
Sale of Assets  
Total

Application of Earned Income

Applied to:

(List)

Total



G 11

Mr. Harold N. Graves

October 14, 1974

John K. Coulter

Meeting USAID October 11, 1974 - Discussion on WARDA

Present: G. Baird, G. Adams, P. Daniells, W. Leake (USAID), M. E. Ruddy, J. K. Coulter (Bank).

USAID were supplied with our draft reports.

- (1) They subscribed to the idea that programs W1-W4 should be integrated.
- (2) They agreed that the scientific management should be strengthened.
- (3) They agreed that there should be a minimum number of scientists at any particular station and that one scientist at a station was insufficient.
- (4) They supported the idea that the training program should be organized in conjunction with IITA and IITA's advice should be given to WARDA on the staffing, equipment and organization of a training center.
- (5) Because of previous commitments USAID might have to move quickly to develop their program at Rokupr, but such a program would fall within the overall concept of an integrated program.
- (6) They would agree with the concept of an overall program within the Consultative Group for WARDA with bilateral donors 'buying' certain parts of this program.
- (7) Pending the appointment of the research manager it might be necessary to make a short term (6 months) secondment to WARDA Headquarters to strengthen the research management to get their program under way.
- (8) Coulter/Ruddy will be in contact with USAID in 2-3 weeks time.

JKCoulter:ia

G11  
H

October 11, 1974

Dear Sir John:

I am enclosing copies of reports by Mike Ruddy after our visit to WARDA. You will see that these documents are incomplete as we have to integrate and complete the recommendations.

We are having discussions with USAID and UNDP; we will have the paper complete for the CG meeting, so we could discuss this with you on the day before the meeting.

Yours sincerely,

John K. Coulter

Sir John Crawford  
32 Melbourne Avenue  
Deakin, Canberra, A.C.T. 2600  
Australia

JK

JKCoulter:apm

HS



G11

October 9, 1974

Dear Jacques,

Having now returned to the Bank routine, I am taking the opportunity to write and thank you for arranging a very useful visit to WARDA. We certainly enjoyed our visit to the research stations in the region and to the Headquarters and I am sure that we have now a much better understanding of what WARDA is doing.

Many thanks, too, for your hospitality; we all enjoyed the evening at your home very much.

I look forward to seeing you when you next visit Washington.

With best regards,

Yours sincerely,



John K. Coulter

Mr. Jacques Diouf  
Executive Secretary  
West African Rice Development Association  
E. J. Roye Memorial Building  
P. O. Box 1019  
Monrovia, Liberia

JKCoulter:ia

H5



Yellow

~~HS~~

G 11

## OFFICE MEMORANDUM

TO: Mr. Michael Ruddy

FROM: Harold Graves

SUBJECT: WARDA -- Terms of Reference for Visit on Financial Management

DATE: September 20, 1974

1. Mr. John Coulter of the Consultative Group Secretariat and Mr. R. Devred for the TAC Secretariat are visiting the WARDA Headquarters in Monrovia, Liberia, and some of the field trials stations in several countries during the second half of September in order to review the status of the W-1 program and the methods by which WARDA is managing its scientific programs (see Mr. Coulter's Terms of Reference of September 9, attached). Given the need also to review the financial position and management of WARDA, it has been agreed that you would participate in the mission. Accordingly, we shall expect you to join Messrs. Coulter and Devred in Monrovia on September 23 for about four days.

2. Your principal objectives are:

- (a) To examine how WARDA manages the funds it receives from donors; to determine whether the use of funds is well planned and recorded; to assess the costing of budget items for the field and at headquarters and the control over such expenditures; and to inspect the 1973 audit report.
- (b) To advise WARDA on how its financial reporting should be carried out, taking into account the Consultative Group's paper on budgeting and accounting procedures and the fact that WARDA is not strictly similar in structure and financing to the normal international center.

3. You should submit a report as part of the general report of the mission which is due to be completed in the week of October 8, as a basis for Consultative Group consideration at its meeting on October 30-31.

## Attachment

cc: Mr. Roger Rowe (without attachment)  
Mr. John Coulter (without attachment)  
Sir John Crawford (with attachment)  
Mr. Peter Oram - FAO (with attachment)

BMC:mcj

## OFFICE MEMORANDUM

TO: Dr. J. K. Coulter  
DATE: September 9, 1974  
FROM: Harold Graves *HG*  
SUBJECT: Terms of Reference -- Visit to WARDA, September 13-29, 1974

On or about September 13, you will travel to West Africa to:

1. Visit the site of the W1 WARDA program (coordinated rice trials) in Senegal, Mali, Gambia and Liberia.
2. Assess the standards of investigations at these stations and the quality of the staff working on the experimental program.
3. Examine the appropriateness of the W1 program and of the other programs, W2, W3 and W4, elements of which may be added to the W1 program for rice production in West Africa.
4. Discuss the research management structure of WARDA and particularly the proliferation of committees associated with this.
5. Examine the training program of WARDA, assess the need and type of training available and required in the region.
6. Examine the budget and methods of disbursing research funds.
7. Discuss collaborative work between WARDA and the Centers, particularly IITA and IRRI.
8. Comment on the appropriateness of WARDA's research program for financing by the CGIAR.

On your return, following your attendance at the meeting in London (Oct. 1-2), of the Sub-Committee to discuss the proposal for the establishment of an international centre for agricultural research in the Near East and North Africa, you will write a report.

cc: Mr. Roger Rowe



Am. W.A.R.D.A. G11

**OUTGOING WIRE**

TO: DIOUF  
WARDA  
MONROVIA

DATE: SEPTEMBER 19, 1974

CLASS OF  
SERVICE: LT

RCA  
(3454)

COUNTRY: LIBERIA

TEXT:  
Cable No.:

FURTHER TO COULTERS RECENT CABLES AND OUR EARLIER DISCUSSIONS ON  
WARDA PROGRAM THIS IS TO ADVISE YOU ~~THAT~~ THAT MICHAEL RUDDY OF BANK STAFF  
WILL JOIN MISSION IN ORDER TO REVIEW PLANNING BUDGETING ACCOUNTING FINANCIAL  
PRACTICES AND REPORTING OF WARDA STOP RUDDY PLANS ARRIVE MONROVIA MONDAY  
EVENING SEPTEMBER TWENTYTHREE FOR ABOUT FOUR DAYS STAYING AT DUCOR

REGARDS

CHEEK

**NOT TO BE TRANSMITTED**

AUTHORIZED BY:

NAME Bruce M. Cheek

DEPT. Agriculture & Rural Development

SIGNATURE *Bruce M. Cheek*  
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

CLEARANCES AND COPY DISTRIBUTION:

cc: Mr. Roger Rowe  
Mr. Michael Ruddy  
BMC:mcj

For Use By Communications Section

**ORIGINAL (File Copy)**

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *SC*



INTERNATIONAL DEVELOPMENT ASSOCIATION

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE CORPORATION

G11

OUTGOING WIRE

TO:

DIOME WANDA MONROVIA

COUNTRY:

LIBERIA

TEXT:

Cable No.:

DATE:

SEPTEMBER 19, 1974

CLASS OF SERVICE:

IT

RCA

(Handwritten initials)

FURTHER TO COUNTERS RECENT CABLES AND OUR EARLIER DISCUSSIONS ON WANDA PROGRAM THIS IS TO ADVISE YOU THAT MICHAEL RUDDY OF BANK STATE WILL JOIN MISSION IN ORDER TO REVIEW PLANNING BUDGETING ACCOUNTING FINANCIAL PRACTICES AND REPORTING OF WANDA STOP RUDDY PLANS ARRIVE MONROVIA MONDAY EVENING SEPTEMBER TWENTYTHREE FOR ABOUT FOUR DAYS STAYING AT BUCOR

REGARDS

CHEEK

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME

Bruce M. Cheek

DEPT.

Agriculture & Rural Development

SIGNATURE

(Handwritten signature)

REFERENCE

CLEARANCES AND COPY DISTRIBUTION

cc: Mr. Roger Rowe  
Mr. Michael Ruddy

ORIGINAL (file Copy)

(Handwritten initials)



# WEST AFRICA RICE DEVELOPMENT ASSOCIATION

Association Pour le Developpement de la Riziculture en Afrique de L'Ouest

(Intergovernmental Organization)

Cables : WARDA MONROVIA  
ADRAO MONROVIA

Telephone : 21466-21963

E. J. Roye Memorial Building

P. O. Box 1019

Monrovia, Liberia

September 17, 1974

2051

JD/bp /74

Dear Harold:

Thank you for your letter of August 22, 1974 and the enclosed copy of the remarks I made on WARDA at International Centers Week.

The corrected text has been neatly retyped and is herewith enclosed.

With kind regards.

Yours sincerely,

Jacques Diouf

Executive Secretary

Mr. Harold Graves  
Consultative Group on International  
Agricultural Research  
1818 H Street, N.W.  
Washington, D.C. 20433

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WEST AFRICA RICE DEVELOPMENT ASSOCIATION



Association Pour le Developpement de la Riziculture en Afrique de l'Ouest

(Intergovernmental Organization)

E. J. Roye Memorial Building  
P. O. Box 1019  
Monrovia, Liberia


Cables : WARDA MONROVIA  
ADRAO MONROVIA  
Telephone : 21466-21963

September 17, 1974

2021  
JD/np 774

Dear Harold:  
Thank you for your letter of August 22, 1974 and the enclosed copy of the remarks I made on WARDA at International Centers Week.  
The corrected text has been neatly retyped and is herewith enclosed.  
With kind regards.

Yours sincerely,

  
Jacques Diouf  
Executive Secretary

Mr. Harold Graves  
Consultative Group on International  
Agricultural Research  
1818 H Street, N.W.  
Washington, D.C. 20433

RECEIVED  
1974 SEP 24 AM 10:07  
INCOMING MAIL UNIT



Mr. DIOUF: Thank you, Mr. Chairman.

Mr. Chairman, I would like on behalf of WARDA to express our pleasure and thanks for being under the umbrella of the Consultative Group and to have the benefit not only of the financial support of the Group, but at the same time of being in the family of international centers, and thereby taking advantage of the work which is done there for the benefit of our member countries.

Mr. Chairman, it would have been proper to start a presentation of WARDA with the world situation but the matter has been dealt with rather thoroughly by different eminent people at previous sessions of the TAC, so I won't come back on that matter, though it might be useful to state that what is happening in the world has a multiplier effect in West Africa. This is mainly due to the situation in these countries, some of which are among the least developed countries, are mainly landlocked and struck by the drought.

Mr. Chairman, I would like first to make a presentation of the situation of rice in West Africa. We have noted that the serious and rapidly expanding problem in West Africa is the widening gap between rice production, which amounts to 1.69 million tons of paddy per year (1.1 millions of milled rice) and rice consumption which amounts to 1.6 million tons of milled rice; which makes a difference, if we indicate the production in terms of milled rice production of around 500-600,000 tons.

This situation has led to a big drain on the foreign exchange of the region and the amount which was valued two years ago at \$65 million a year for import has now reached a level of roughly \$140 million.

A second important reason for the urgency to boost rice production in West Africa is the situation of the world rice trade. As you know, only 2.5 percent of the world production is available for rice importing countries and a drop in production due to adverse weather conditions or crop failure, or due to other circumstances, will directly affect the quantity available for export, as every producing country will as a first priority cover its domestic consumption, so even if funds were available, it is not sure that West Africa can always import the yearly increase in quantity of rice needed by its increasing population.



Mr. Chairman, the import of rice which I said is valued at 500,000 tons, would be increased during the next years mainly due to population growth and increased consumption in the different cities, because of the phenomenon of urbanization. We have therefore noted that from the projections of the demand, based on population growth and based on the increase of per capita consumption, we would reach by the year 1980 an amount of expenditure of roughly \$500 million per year.

The acreage, which is estimated at 1,700,000 hectares, is divided into five types of rice cultivation.

First we have rainfed rice cultivation which amounts to roughly 60 percent of the aggregate.

Then we have the deep flooded rice conditions which comes to 30 percent.

Floating rice cultivation which is the cultivation of rice beyond a depth of a hundred centimeters would come to about 10 percent.

Then we have the production of mangrove rice with a percentage of 6 percent. Lastly irrigated rice condition with complete water control accounting for 4 percent.

We note that the first three types of rice cultivation do not require many inputs, but the last two need very high investments for dikes, counterbounds, irrigation and drainage systems, pumping stations, and likewise high inputs to realize very high yields. Average production per hectare fluctuates widely and varies between 600 kilo per hectare for upland rice and 3,000 to 4,000 kilo per hectare for irrigated rice. Moreover under certain conditions, it is possible to grow two crops per year.

What is the production according to the type of farm management? Ninety-five percent of the area is cultivated by 700,000 farmers preparing the land and cultivating the crop manually. About 5 percent of the total area under review is plowed by tractor or animal power. The use of draft animals is seriously restricted by disease, mainly trypanosomiasis. African cattle, with high tolerance of trypanosomiasis exist, but are little used due to poor performance. In general, however, the opportunity to improve farm management by intermediate technique, using draft cattle is very



restricted; on the other hand, jumping from manual labor to motorized power implies a big step forward, but a lot of experimental, technical and educational problems are involved. Successful motorization schemes are scarce. Generally, speaking, nearly all paddy in West Africa is grown by the small subsistence farmer.

What is the consumption pattern? The consumption of rice per head differs greatly among West African countries and this will be shown on the slides. Generally in the area where rice has been cultivated for hundreds of years, the areas with high annual rainfall extending from Southern Senegal and the Gambia to Western Ivory Coast, the average consumption per head is more than a hundred kilo per year. The habit of using rice as a staple food is spreading from here to the neighboring more isolated areas relying on dry land crops such as millet, sorghum and which have much lower consumption figures.

Also within the member countries, there is a wide difference in rice consumption between rural and urban population and between the consumption of rice and root or tuber crops in the coastal zone, on the other hand. Projections for future trends in consumption are rather difficult to forecast but I will give you some ideas.

Summarizing, the rice production situation encountered in West Africa, is one of poorly developed cultivation methods, a preponderance of subsistence farmers who need to be organized into cooperatives for efficient use of inputs, with subsequent higher productivity and also a rising consumption trend.

It is within this framework of production and consumption that the different countries of West Africa, 12 in the beginning, and now 13 of them, Dahomey, The Gambia, Ghana, Ivory Coast, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo and Upper Volta created the West Africa Rice Development Association in the early 1970s, but the organization came into effective being only on the first of December, 1971. So you will realize that this is a rather young organization.

It is an intergovernmental organization which aims at increasing rice production in West Africa, with a view to reaching self-sufficiency. To do this two ways have been developed: one is what we call the research activities. The decisions are taken by the Governing Council of WARDA, which is made up of a representative from the



different member countries. These representatives are mainly Directors of Agriculture or Heads of Rice Research Centers in the different countries.

Prior to any decision being taken by the Governing Council, the different proposals put by the Secretariat are studied and commented upon by a Scientific and Technical committee of seven members. These members are selected on their personal competence. We had the great pleasure of benefiting from the contribution of the former Director of IRRI, now Director of the Vegetable Center, and we have also the advantage of the contribution to this scientific committee of the Director of the French Research Network for Africa.

We also have what we call our Advisory Committee. This Advisory Committee is made up of six member states and countries which are giving us assistance and which are called cooperating countries. We also have in this Advisory Committee institutions and organizations that have interest in rice work. Hence we have the contributions of IITA, IRRI, IRAT, AICRIP, ECA, FAO and OAU/STRC and some other organizations.

The financing of WARDA has been made mainly by the member states, for the administrative expense of the organization, and by cooperating states like the United States, The Netherlands, U.K., France, an organization like the Ford Foundation, and now we have the benefit of the support of the Consultative Group on International Agricultural Research.

We also have the very important support of the United Nations Development Program, with the FAO as its executing agency.

The headquarters of WARDA are located in Monrovia, Liberia, and the activities are undertaken both at headquarters and in the different member countries.

The development activities could be divided into two main areas: one is the assistance to member countries for project identification, project formulation, and project evaluation. In this field we have multi-disciplinary teams with agronomists, economists and other specialists; and they are working together with specialists from IBRD, African Development Bank or the FAO cooperative program. We do have agreements with these organiza-



tions to have joint studies and joint teams working in West Africa on rice.

We also have activities in the field of seed multiplication with a regional seed multiplication center created with the funding of France in Senegal. We also assist member countries through the development team on specific requests when any problem is faced by these countries, either in the field of production, marketing or any field related to rice production. Either we have the expert available at the headquarters or we use our consultant funds to hire suitable people from different parts of the world, to use them in the different member countries.

Now, the research program which is of more interest to the Consultative Group. This program was prepared after the first assessment of rice research in West Africa. This work was done mainly with the contribution of USAID and the different foundations. This led to the publication of a document called "Rice in West Africa" giving the overall situation of rice production, rice research and rice extension. On the basis of this document, FAO which was at that time the interim secretariat of WARDA, prepared a five-year mid-term program covering different areas relating to rice. From the research on problems relating to soils, varietal improvements, et cetera, to even problems of rice cum fish. Out of this extensive program we had to prepare some projects which seemed to us of priority nature. These projects were prepared using consultants both from the developed countries and from developing countries, and also from WARDA countries. We were also able to secure the services of experts coming from international centers.

The draft document which was prepared was submitted to the first meeting of the Governing Council in Mali and there, these projects were discussed by the Scientific Committee and Advisory Committee and led to the adoption of the final program of research, well, the interim, I would say. This program can be divided into two parts: what we call the special research project, which are aimed at filling gaps in rice research in West Africa. For instance, where we have noted that work going on was adequate, like breeding under irrigated conditions or breeding under rainfed conditions,



we didn't find it necessary to develop a WARDA program; but in the field, for example, of rice breeding under deep flooded and mangrove conditions, it was felt necessary to develop a regional program using the facilities at stations which were adequate for this type of work.

So it is this approach which led us to adopt programs called W-2 for varietal improvement, W-3 for soil chemistry and fertilizer use, and W-4 for plant protection.

In addition to these special research projects, we have what we call the network of coordinated trials aimed at using the results of rice research work at national and international levels and testing these results in a network throughout West Africa on the basis of ecological conditions and types of rice cultivation.

We started with bilateral funds to undertake the first set of coordinated trials in 1973, mainly with the funds provided by the USAID and the Netherlands. We were able after seminars held with the specialists in the different disciplines such as in the field of varietal improvement, soils and fertilizer use, and in the field of plant protection to arrive at a protocol for the experiments. This indicates clearly the different varieties to be tested, the different entries and the conditions under which the tests would be conducted. We were able from the 15th to the 20th of July of this year to have our first annual rice review meeting on the coordinated trials.

I will give you some of the results that were obtained during these first trials.

We had a variety trial under rainfed conditions with short duration varieties. These trials were conducted with seven varieties: Dourado Precoce, I Kong Pao, Cheke Chiao, Soavina, HBD 2, IR 442, 15/IR 528-1-32, which as you will see, cover a wide range of origins; some varieties being Chinese varieties, some being varieties from South America, mainly Brazil, and also varieties from West Africa like HBD 2.

The conclusion we arrived at during the meeting for this type of rice cultivation was that lack of moisture and heavy incidence of *Piricularia* were among the major reasons for the low grain yields



at many locations. The varieties, Dourado Precoce, I Kong Pao, and IR 442 were among the best yielding varieties at four locations, but were <sup>also</sup> among the poorest yielders at two locations, clearly indicating the erratic varietal behavior.

We noted under the experimental conditions that there were very promising local varieties like Se 302G, which gave us a result of 4,000 kilo per hectare under the conditions in Sefa, in Senegal. We have decided that we will use this variety, which gave 4,000 kilo in Sefa to introduce it into our coordinated trials.

Then the medium duration variety trial under rainfed condition, we introduced new varieties like LAC 23, Moroberekan, T x 52.10.1, in addition to varieties already indicated. Some IRRI varieties like IR 5, IR 20 and IR 442 were also tested along with the local varieties.

The average grain yield at four locations indicated that the taller and early maturing varieties like Iguape Cateto were among the highest yielders. The varieties like IR 5 and IR 442 averaged the lowest grain yield. Highest grain yield among all the varieties were obtained but in one single location by IR 442 with 3.6 ton per hectare in Ghana.

Under irrigated conditions, we tested IR20, Cica 4, I Kong Pao, SML Awini and DJ 346 D. These tests were, all of them I think under different conditions, conducted with randomized block design with 6 to 8 replications. At most locations IR 20 and Cica 4 and DJ 346 D were among the top yielders. Their relative performance however was not steady among the locations, and in the overall we had yields averaging around 5 tons per hectare.

The medium duration varieties under the same conditions of irrigated rice were also tested and we added varieties from Rokupr like BD 2 and also new lines of IRRI like 58/IR 382-7-2-2. The trials gave very high yields under the conditions of IITA where we reached 9.5 tons per hectare, while under the conditions of Dahomey, the average yield was only 1.4 tons per hectare.

Mr. Chairman, I won't go on with the different detailed results as I am running short of time.

The short duration varieties have performed well under the conditions where drought prevailed and mainly in the area of the Sahelian zone of West Africa, while the long duration varieties



performed better under condition of higher rainfall. This could be explained by looking at the detailed document we gave you on the Annual Research Report -- I think you all have this document. By looking at it and comparing what I would call the table of rainfall and the different stages of growth of the plant, you will note that varieties flowering at a time of very low rainfall, have very low yields.

Most of the short duration varieties escaped the period of drought because they were able to arrive at flowering stage during the period when rainfall was still available. This is the main reason why the long duration varieties which flowered under moisture stress did not perform as well as the short duration varieties.

We noted also that most of the varieties that were supposed to be resistant to blast under the West African conditions were rather susceptible to blast. This raises the problem of breeding against the different strains of Piricularia oryzae under the local conditions of West Africa.

Mr. Chairman, I would like to talk a little about the financial aspects of the activities of WARDA. Most of the development activities of WARDA have at this stage found adequate financing. We are having our Development Department financed by the UNDP through FAO and we are also benefiting from the support of France for the Project Quantification section of our Development Department. We also hope to receive financing from the Swiss Government for the financial aspects of project studies of development program. But when we come to the research program, there we are facing more difficulties. The program of coordinated trials which was to be financed by the Consultative Group was to be to the tune of \$650,000, of which only \$475,000 were collected I would say, through bilateral financing under the Consultative Group.

Then we had the problem of financing the special research projects. For the W-4, mainly the problem of plant protection, we are negotiating financing with IDRC for the weed studies and control aspect only. While we are still negotiating with the United Kingdom for the financing of project W-3 and part of W-2



a USAID mission is to come to Monrovia by the end of August to discuss the possibility of financing the other parts of W-2 and W-4.

The main difficulties we are encountering in financing these projects through bilateral sources is the fact that most of these countries have their own internal regulations which makes it impossible for them to finance an overall program. They would finance up to 80 to 90 percent of the project but are never in a position to be able to finance the remaining 10 percent. This has prevented us from sometimes being able to sign the agreements proposed by such countries since we would not be able to find the funds for the additional 10 or 20 percent. This is the reason why this matter was submitted to the Steering Committee of WARDA. We recommended, and this was endorsed by the Steering Committee, that a lump sum of \$100,000 be given by the Consultative Group for complimenting funds from these bilateral sources.

Regarding the problem of linkage with the international institutes which, Mr. Chairman, I think is very important, we are very pleased to report here that we have received full support from the International Centers working in the field of rice under the umbrella of this Group, particularly from IITA and IRRI. We were able to conduct with IITA a joint six-month training course for rice production specialists last year. We were also able to send some of our scientists to attend workshops and meetings of IITA. We received at our meetings specialists from IITA. We also received seeds for the different entries of our coordinated trials from IITA and we are planning the training of our field assistants at IITA by the end of this year.

From IRRI, we continue to receive full support. IRRI participated at all of our meetings this year. Although we were not able to send someone to their workshop, this was mainly due to the fact that our Research Department had only two persons at that period. We hope to be able to attend more meetings there.

From IRRI, we also received besides varieties for our coordinated trials, other varieties that are to be tested within the framework of our initial evaluation trials.



Mr. Chairman, I wish to stop my presentation at this stage to allow for more discussion if this suggestion is acceptable.

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Mr. Chairman, I wish to stop my presentation at this stage  
to allow for more discussion if this suggestion is acceptable.

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1974 SEP 24 AM 10:06  
INCOMING MAIL UNIT

INCOMING CABLE

INTBAFRAD WSH

INTBAFRAD1/12 FUF823 LXF809 CEL

UFNX HZ LXMV 042

MONROVIA 42/40 11 1718

Sep 11, 1974

RECEIVED

SEP 12 9 39 PM 1974

COMMUNICATIONS  
SECTION

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Distribution:

Mr. Coulter c/o Mr. Graves

*Cable copied to  
Coulter in Newyork.*

LTF

COULTER CARE GRAVES INTBAFRAD

WASHINGTONDC

REYRCAB 10/9 PLEASED INFORM YOU DOCTOR HARRY WILL RESEARCH COORDINATE  
AND OMER KOFFI FERTILIZER TRIALS COORDINATOR MEETING YOU DAKAR STOP  
RESEARCH STATIONS ALREADY NOTIFIED OF VISITS AND TRANSPORT ARRANGED  
ACCORDINGLY STOP REGARDS

DIOUF WARDA



## OFFICE MEMORANDUM

TO: Dr. J. K. Coulter  
DATE: September 9, 1974

FROM: Harold Graves *HG*

SUBJECT: Terms of Reference -- Visit to WARDA, September 13-29, 1974

On or about September 13, you will travel to West Africa to:

1. Visit the site of the W1 WARDA program (coordinated rice trials) in Senegal, Mali, Gambia and Liberia.
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4. Discuss the research management structure of WARDA and particularly the proliferation of committees associated with this.
5. Examine the training program of WARDA, assess the need and type of training available and required in the region.
6. Examine the budget and methods of disbursing research funds.
7. Discuss collaborative work between WARDA and the Centers, particularly IITA and IRRI.
8. Comment on the appropriateness of WARDA's research program for financing by the CGIAR.

On your return, following your attendance at the meeting in London (Oct. 1-2), of the Sub-Committee to discuss the proposal for the establishment of an international centre for agricultural research in the Near East and North Africa, you will write a report.

cc: Mr. Roger Rowe

G 11 Yellow  
HS

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

1818 H St., N.W. Washington, D.C. 20433 U.S.A.  
Telephone (Area Code 202) 477-3592  
Cable Address - INTBAFRAD

SPECIAL DELIVERY

September 5, 1974

Dear Mr. Diouf:

You will now have received my cable altering the arrangements for my trip and confirming that I would like to retain the visit to Mopti. I gather that there is no hotel there so could you please arrange any kind of accommodation which is used by your staff when they visit the station.

Mr. Rene Devred of FAO will join me in Dakar and will accompany me on the trip. Is there a possibility that Dr. Will could meet us there and also accompany us on the trip as outlined in the attached schedule. The Bank are booking me into the Terango Hotel in Dakar so perhaps he could meet me there on September 15.

Can you arrange the road trip in the Gambia and into Senegal? I would like to meet Dr. Marenah in the Gambia but it looks as if the only time that this could be fitted in would be the morning of September 21 before we set off for Sapu. However I will leave that to your contacts in the Gambia.

You can take it that the attached program is now the final one and I would be glad if you could confirm the necessary contacts in Senegal and Liberia as well as Gambia and Mali.

I have not received any further papers from you either in the U.K. or at the Bank so perhaps Dr. Will could bring these with him if he is coming to meet us in Dakar. You will remember that these were to include the various reports which have been written about WARDA. I do, of course, have copies of the annual reports, etc., which were sent here for Centers Week.

With best regards,

Sincerely yours,



John K. Coulter

Mr. Jacques Diouf  
Executive Secretary  
West Africa Rice Development Association  
E.J. Roye Memorial Building  
P.O. Box 1019  
Monrovia, Liberia

ITINERARY J.K. COULTER, WEST AFRICA

<u>Date</u>	<u>From</u>	<u>To</u>	<u>Flight</u>	<u>Dept.</u>	<u>Arrive</u>
Sept. 12	Washington - N.Y.	London			
Sept. 15	London	Dakar	AF 305	12.00	22.00
Sept. 16	at Dakar	Visit to Bambey proposed			
Sept. 17	Dakar	Richard Toll	DS 271	08.30	09.20
Sept. 17	Richard Toll	Dakar	DS 272	17.50	18.55
Sept. 18	Dakar	Bamako	RK 502	14.30	16.10
Sept. 19	Bamako	Mopti	MY 23	06.00	07.20
Sept. 20	Mopti	Bamako	MY 24	10.20	11.40
Sept. 20	Bamako	Dakar	MY 41	15.40	17.10
Sept. 21	Dakar	Bathurst	WT 964	07.00	07.30
		By road from airport to Sapu. Night at Sapu			
Sept. 22	at Sapu				
Sept. 23	Sapu	Ziguinchor by road stopping at Jenoi and Sefa on the way.			
Sept. 24	at Ziguinchor	visiting Djebilor; return to Bathurst			
Sept. 25	Bathurst	Monrovia	WT 962	10.00	12.25
Sept. 28	Visit to Sueboko				
Sept. 29	Monrovia	London	SR 255	07.40	19.00
Oct. 3	London	Washington	BA 520		



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Distribution:

Mr. Coulter c/o Mr. Graves

RE YOUR ITENERY STOP TO SAVE TIME POSSIBLE AVOID TRIP FROM  
SENEGAL TO MALI AND BACK TO SENEGAL STOP CONSIDER  
ADVISABILITY RETURN MONROVIA FOR DISCUSSIONS AFTER IITA VISIT  
STOP REGARDS

DIOUF WARDA

INTBAFRAD WSH