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A REVIEW OF THE ORGANIZATION, ADMINISTRATIVE
AND FINANCIAL MANAGEMENT AND PROGRAMS OF
THE WEST AFRICA RICE DEVELOPMENT ASSOCIATION
MONROVIA, LIBERIA

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The West African Rice Development Association (WARDA) is the agent of twelve sovereign states for coordinating and furthering the development of the rice industry in and among those countries. The objectives and programs elaborated by the Association appear to be consistent with its purposes and the elements of the program implemented so far have met adequate standards of professional excellence. WARDA is a new, innovative and expanding organization. It is unique because of its dependency upon a variety of donors, its focus on a specific commodity system, the scale of its international relationships and intercultural constraints. WARDA is well organized and managed with due allowances for factors noted above. The Coordinated Trials Project enables the member states to carry on a complete scope of adaptive research in rice at a very low cost. The evaluators make 19 specific recommendations about organization and management, the financial system, the research program and the development department. Recommendations include: (1) pursue WARDA's present course of institutional development; (2) complete the definition and planning of WARDA's role and courses of action as rapidly as feasible; and (3) consider WARDA's role in assisting the production and marketing activities in the member states.

T A B L E O F C O N T E N T S

ABBREVIATIONS

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ABBREVIATIONS

- ADO - Area Development Office of A.I.D. (Dakar, Senegal)
- A.I.D. - Agency for International Development
- CAFRAD - African Council for Administration and Research in Development
- CGIAR, CG - Consultative Group for International Agricultural Research
- CIAT - Centre International de Agriculture Tropical
- CIISUWASH - Council of U.S. Universities for Soil and Water Management in Arid and Sub-humid Areas
- ECA - Economic Commission for Africa (UN)
- FAO - Food and Agriculture Organization
- IITA - International Institute for Tropical Agriculture
- ILACO - International Land Development Consultants
- IRAT - Institut de Recherches Agronomiques Tropicales et des Cultures Viarieres (Paris)
- IRRI - International Rice Research Institute
- OUA/STRC - Organization for African Unity/Scientific, Technical and Research Commission
- ORSTOM - Office de Recherche Scientifique de Territoires d'Outre-Mer
- RDO - Regional Development Officer of A.I.D. (Dakar, Senegal)
- SER/FM/FSD - Office of Financial Management - Field Services Division of A.I.D.
- TAC - Technical Advisory Committee of the FAO
- UNDP - United Nations Development Program
- WARDA - West Africa Rice Development Association

PREFACE

This study was made upon the invitation of Mr. Jacques Diouf, Executive Secretary of WARDA, to afford the A.I.D. Office of Central and West Africa an insight into the organization, program and operational status of the organization and for the purpose, where appropriate, of making recommendations on programs and procedures.

The first call of the mission was to determine what of the WARDA program A.I.D. should support and in what form that support should be. While all observations were reviewed with other pertinent donor agents (except FAC, which was not represented in Monrovia), this remains essentially an A.I.D. paper. However, it is nonetheless an external, institutional description and evaluation of WARDA, and to that extent it may be useful to other parties and agencies interested in the Association.

The report is comprised of this volume and seven unbound volumes of annexes which are identified in the Table of Contents. The annexes were assembled for purposes of documentation and because of their bulkiness, only one complete set was taken to Washington. No reproductions were made. Those who may be interested in obtaining specific documents cited in the annexes might write to Mr. Jacques Diouf, Executive Secretary, West African Rice Development Association, P.O. Box 1019, Monrovia, Liberia.

CONCLUSIONS

General

1. The West Africa Rice Development Association is the agent of twelve sovereign States for coordinating and furthering the development of the rice industry in and among those countries.
2. The objectives and programs elaborated by the Association appear to be consistent with its purposes.
3. The elements of the program implemented so far have met adequate standards of professional excellence.
4. There is an air of urgency and willingness to work among WARDA personnel.

Organization and Management

1. WARDA is a new, innovative and expanding organization. It is unique because of its dependency upon a variety of donors, its focus on a specific commodity system, the scale of its international relationships and intercultural constraints. These add to needs for flexibility and special control devices in its management.
2. WARDA is well organized and managed with due allowances for factors noted above. A.I.D. projects are well supported. Considerable effort has gone into procedures for strengthening program planning, budgeting and implementation. Cost, efficiency and service factors are taken into account. Network planning, communications, personnel, budget, accounts and procurement are examples of processes being systematized and improved. WARDA should continue this approach while guarding against overextending its program commitments and logistical requirements.

Financial System

1. With due allowance for its early stage of development, WARDA follows accepted, modern practices of budgeting, accounting and fiscal control. Its procedures are modeled particularly on FAO guidelines and reflect special conditions of multinational program relationships.

2. Serious efforts are being made to refine budget and fiscal procedures, utilizing outside professional help, thus filling the gaps in assuring necessary instruments for fiscal and accounting control. These should continue as major management concerns.

3. WARDA and A.I.D. have agreed on procedures for continuing review, action, steps and information needed to assure proper control of A.I.D.-supplied resources.

Research

1. Project W₁, Coordinated Trials, provides an essential service to the member States that would be difficult to come by in any other way. With Project W₁, the member States can carry on a complete scope of adaptive research in rice at a very low cost.

2. Projects W₂, 3, and 4 propose to fill in the gaps in rice research in West Africa, utilizing existing member State land and buildings, as well as to provide specialized consultation to the cooperating stations in the W₁ network. This is commended. The projects would likely profit from more detailed study and design.

3. It was observed that soil and water management was a problem at one cooperating station as well as elsewhere in West Africa. Although research in soil and water management has been considered, so far no program has been implemented.

4. The present emphasis on weed control appears to be less than might be warranted.

Development

1. The Development Department appears to be an open-end service activity addressed to the production and marketing problems of the member States. So far the Documentation, Project Planning, Seminars and Training elements have started up. Many other activities have been conceived. There is a need to define, delimit and plan the essential elements of the program.

2. WARDA has implemented an excellent plan to provide member States with seed starts of the rice varieties that will be identified in the coordinated trials.

3. The Documentation program as planned will provide WARDA-related scientists access to all of the significant literature on rice. Plans for exchanging materials with other interested agencies in the region were not clear.

4. WARDA's role in servicing member States with extension, information and training consultation and materials has not been fully elaborated.

RECOMMENDATIONS

General

1. That WARDA pursue its present course of institutional development, including the establishment of non-project support as early as feasible.
2. That WARDA complete the definition and planning of its role and courses of action as rapidly as it is feasible.
3. That external studies such as this be repeated at two to three year intervals during the formative period of WARDA, at five year intervals in later years, and at any time that serious administrative or program problems should occur.

Organization and Management

1. Continue to make internal planning, management and fiscal system improvements and adjustments to further develop management control and program implementation functions.
2. Refine the network analysis and program planning procedures to strengthen both program development and implementation activities. Link these with budget system improvements.
3. Undertake a more detailed management and operational examination, including budget procedures, within the next year, after new personnel are in place and preferably at the same time as the next network analysis review.
4. Investigate the potentials of more systematic training for professionals needed in WARDA programs, including managerial officers and bilingual capabilities of staff.
5. Explore the possibilities of mutually useful resource exchanges with other U.S./UN-supported African organizations, such as CAFRAD.

Financial System

1. WARDA should follow internationally acceptable budget and fiscal standards. Its budget should be recast to reflect CG policy and practice guidelines.
2. WARDA should continue its present efforts to seek improvements in fiscal processes, including staffing, procedural changes and use of outside professional advice from outside accounting consultants.
3. Among actions which should be taken are, (a) function development of machine accounting procedures, (b) selection of remaining staff, (c) reporting of grant agreements on accounting records, (d) refinements in payroll procedures, and (e) revolving fund, disbursement, commitment and other accounting control improvements.
4. WARDA should complete its present efforts in issuing Rules and Directions governing financial administration.

Research

1. That the member States should bear as much of the cost of the junior technical staff as their resources permit.
2. That the proposals for Projects W₂, W₃ and W₄ be re-elaborated in a manner showing their operational procedures, their regional significance, relationships to international and regional research centers and their role in supporting the research programs of the member States. This should then be made available to CG/TAC.

It is further recommended that for each, W₂, W₃ and W₄, a small team of experts review the research plans.

3. That a competent team of experts in water utilization development determine to what extent adaptive research in this area should be implemented.

4. That WARDA hire a full-time expert in soil and water management to assist its network stations in solving land leveling and water distribution problems.

Development

1. Attention should be given to completing the scope of activities and plans for the development activities as soon as possible.

2. WARDA should consider its proper role in assisting the production and marketing activities in the member States through extension information and training materials and extension methods.

3. WARDA would benefit from the value received, including good will, by exchanging literature of mutual interest with other development schemes in the region.

I.
INTRODUCTION

The West Africa Rice Development Association is an organization of twelve West African states whose purpose is to maximize or optimize the resources that may be available individually or collectively for increasing rice production. ^{1/}

Justification

While the present rice consumption in the WARDA states is about 1.6 million tons and production is about 1.2 million tons, it is projected that consumption should reach 2.1 million tons by 1980 and 3 million tons by 1990 (Annex I B, p. 3). Member States have attracted approximately \$60 million in external assistance for rice projects affecting 326,000 hectares with the expected additional production of 720,000 metric tons, a 45% increase (Annex I B, p. 35). Other projects are envisioned.

Approaches

The general strategy calls for first implementing ready-to-go activities as quickly as possible, admittedly to make an early, favorable impact. Success of the venture is seen to depend on professional prestige. Secondly, the gap-filling types of activities are to be initiated. Third, more sophisticated, further-reaching programs are to be undertaken.

The program is elaborated into two major sub-systems. One is the research activity which proposes to fill gaps in regional research requirements and coordinate, service and generally make the national adaptive research programs useful. The other is the development activity which services output projects, providing delivery systems for both WARDA research outputs and external technology.

^{1/} Mauritania, Senegal, Gambia, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Dahomey, Nigeria, Niger and Mali

Resources

WARDA is a non-profit organization, receiving its support from member States' dues and contributions in kind, and contributions from the world development aid donor community.

Purposes of the Study

The purposes of this study were:

1. To learn what specifically WARDA proposes to do to assist with increasing rice production in West Africa.
2. To determine to what extent WARDA, the institution, is organized and operated to effectively utilize external assistance, specifically from A.I.D.
3. To determine the extent to which project input programming is complete - specifically, whether adequate resources would be available for the operational support of technical personnel.
4. To know the organization's budgeting and accounting systems, and if appropriate offer assistance, specifically to meet A.I.D. funding and accounting requirements.
5. To review financial policies and advise on changes, if appropriate, to simplify grant funding.
6. To provide an evaluation and a base for which A.I.D. may draw decisions on and methods of assistance in the future.
7. To provide the Executive Secretary with the report and the ensuing recommendations to be used as he sees fit.

Methods

It was envisaged at the outset that a comparative study would be made. However, the uniqueness of the organization proved this to be

inappropriate. The prevailing method employed in the study was that of expert examination and judgment. This procedure was followed:

1. The Association's documents were examined.
2. Policies, programs and procedures were presented.
3. The organization, programs, procedures, operations and linkages, as they existed, were examined.
4. The findings were reviewed with the pertinent staff officers.
5. The revised findings were reviewed with the Executive Secretary.

While this was not necessarily intended as an evaluation, adequacy, or capability of fulfilling purpose was the overriding criterion in every consideration.

II. ORGANIZATION AND MANAGEMENT

Robert R. Johnson

Introduction

The purpose of this inquiry is to assess WARDA's present organizational and management structure. Information has been gathered by individual and team discussions with WARDA officials and staff, informal discussions, observation visits to divisions and to an outreach station, and review of documents.

This is at best a reconnaissance of the main features of the present system. In the brief time available, it was not possible to undertake any in-depth examination, and further, a few key officials were away or not yet on board. Even so, adequate information was obtained through WARDA documents and the full cooperation of the Executive Secretary and others on his staff to support the following observations.

WARDA is a new kind of international development organization, representing and serving several African nations, managing and utilizing money and physical and human resources from many different donors, adjusting to multinational cultural distinctions and working with the total system problems of a specific commodity flow. ^{1/} WARDA is trying to meet national and regional needs for research, technology and training and to cooperate with programs related to international organizations by "filling the gap" in necessary services not otherwise available.

Apart from these innovative organizational characteristics, for which there is limited comparative experience, WARDA is a new organization. Assessment must necessarily take into account that it is still in

^{1/} The Inter-American Institute of Agricultural Sciences, Turrialba, Costa Rica, had similar origin and sponsorship but differs in that it addresses the entire spectrum of tropical agricultural sciences and embraces its own facilities including a graduate school.

an early phase of organizational development. It is still adjusting its planning, management, financial and operational processes in response to conditions as they evolve from the planning board to the state of viable reality.

Some Key Issues in WARDA Management

WARDA faces common questions inherent in organizing and implementing a large-scale, new program, but it also must respond to unique conditions which affect the style, methods, costs and success of its management.

The latter includes:

1. Program and project planning, budgeting and execution when there is dependency on (a) financial resources made available bilaterally or through international organizations, each entailing program preferences and financial restrictions of varying proportions and (b) reconciliation of perspectives and encouragement of member State participation and financing through both cash and in-kind support.

2. Reconciliation of variations in national cultural patterns, including language, particularly Anglophone and Francophone. These impose difficulties and extra costs in communications, understanding and country and staff relations.

3. Planning and implementing the application of resources when there are procedural and financial uncertainties along with inflexible time limits for the implementation of certain activities (specific growing seasons, marketing processes, for example).

4. Collaborative, reporting and information linkages with national agricultural and rice development organizations and with international

developmental organizations concerned with rice problems. In particular, this includes the programming and use of resources in ways that strengthen national institutions and are coordinated fully with the programs of other international institutions.

These and related factors impose special responsibilities upon WARDA leadership as well as its donor and supporting organizations, suggesting that more imagination and flexibility are required than would be true of a fully matured organization and program with fewer external constraints.

A Summary Assessment of WARDA Management

Taking into account the above considerations, WARDA is generally well organized and managed. WARDA's organizational structure has a solid legal base and reflects a functionally sound approach. There are mechanisms for developing policies at appropriate levels, for conducting external and internal relationships and for systematic program development, implementation and management. The present WARDA organization appears to be evolving satisfactorily. General administration, finance, procurement and personnel activities are increasingly being systematized and institutionalized. Cost control, simplicity, standardization and efficiency are among the factors taken into account in these efforts.

This is not to say that WARDA's management processes are without weaknesses. Typical operational difficulties in such areas as program planning, donor relationships, staffing and personalities have been problems, but these have been recognized, examined and acted upon.

WARDA should carefully guard against expanding programs too rapidly. It must preserve high professional quality in its work and assure that all new undertakings can be assimilated with necessary management and logistical support.

These needs should be met if WARDA continues its efforts to:

- a) make appropriate delegations and institutionalize management processes,
- b) systematize and refine program planning and implementation through network analysis and related means, particularly budget control links,
- c) strengthen formal communication linkages, particularly between headquarters and field project operations, and d) systematize and standardize personnel, procurement and general administrative services and controls. The recent employment of special full-time officers for the latter should help.

Present Mission, Organization and Management Structure

The present organizational structure and functions of WARDA were legally established under a Constitution (Annex II A) upon quorum ratification by member States in 1971. This followed a first review of the concept for such a program by West African States and other interested organizations in September 1969, and subsequent preparation and approval of a draft Constitution on September 4, 1970. The Constitution is a well conceived document which outlines legal status, functions, financing, control, resolution of disputes, entry and termination, and other concerns.

Mission. The main purpose of WARDA as stated in the Preamble of the Constitution, is to pursue "a joint effort of the countries in West

Africa in cooperation with other countries and organizations in order to improve the planning, production, storage and marketing methods of rice without losing sight of the importance of other crops; and for this purpose to encourage, promote and undertake research at the regional and national levels." (Annex II A) This mandate provides the legal base for its program and project activity.

More specific objectives and purposes of WARDA are given in the publication, WARDA, What It Is, What It Does, How It Works (Annex I A). The choice of priorities and targets is gradually being clarified, and modern planning methods appear to be increasingly used for the selection and control of goal-oriented activities as WARDA develops its role. WARDA's program and organization are further elaborated in the introductory statement of the Research Proposals of the WARDA (Item 13 - Annex I B).

Organization. WARDA has as its policy-making element a Governing Council consisting of a representative of each African member State (now 12; other African nations outside the region are also eligible for membership). The Council is supported by an Advisory Committee which includes representatives of member States, cooperating countries and cooperating African and international donor organizations. The Advisory Committee has as its major function the review of plans, programs and financing for WARDA and making recommendations to the Governing Council for action. In addition to the Advisory Committee, there is a Scientific and Technical Committee which provides professional evaluation of proposals and related technical ideas, as well as technical guidance. The

Governing Council is also assisted by ad hoc committees created as deemed appropriate. Policy advice is also provided by the Executive Secretary.

The implementation of programs and projects of WARDA is under the direction of the Executive Secretary, whose role is described in Annexes I A and II A. The first Executive Secretary, Mr. Jacques Diouf, was elected by the Council in December 1971. Since then, in a comparatively short period, WARDA's present program has taken form (the first official work program was approved in September 1971).

For purposes of advice, control and coordination, the Executive Secretary utilizes a Technical Committee composed of senior program officers for program, operational and technical matters, and an Administrative Committee of senior administrative officers for dealing with financial, personnel, procurement problems and general management activities.

The official organization of the Secretariat is rationally structured along functional lines with reasonable spans of control, although the allocation of individual functions might be examined further (For example, should the Documentation Centre report directly to the Executive Secretary or be placed in the Development or Administration Division? Annex II B). The structuring necessarily reflects the leadership preferences of the Executive Secretary and Council, which reflect personal equations typical of all organization processes. The actual functioning within this formal structure is flexible, reflecting that some of the positions have only recently been established and that

delegations are dependent upon experience of staff officers and willingness of the Executive Secretary to delegate additional individual responsibilities as the organization expands and institutionalizes.

Personnel. WARDA's present personnel strength includes fifty-six professional staff members (one and two-year contracts) to project and administrative activities at Headquarters or in the field. Thirty-four are based in Monrovia, and the balance are assigned to project activities in five other regional locations. Of the fifty-six employees, twenty-six are in senior (expert) posts, and the remainder in junior (associate) posts. In addition to the professional staff, WARDA employs twenty-four full-time general service staff personnel for secretarial, clerical, logistical and custodial support activities. This does not include project support staff in the field, many of whom are part-time and provided by member States (Annex II C).

Neither the need for, nor the performance of individual posts was evaluated. It was noted, however, that justification for staff must run the gauntlet of a review within the Secretariat, Advisory Committee and Governing Council. These have also been related to goal-oriented processes in a network analysis procedure which is being developed as a management tool. Additionally, formal personnel procedures and regulations, written position descriptions, attendance requirements and other supervisory devices are being used or developed.

WARDA has established and is refining uniform personnel regulations. These generally follow UNDP/FAO standards. The present personnel regulations covering classification, pay, recruitment, leaves, absences, medical, social security, travel, discipline, separation, and

appeals are given in Annex II D. These have been officially approved by the Governing Council. Attempts are now underway to prepare more definitive staff rules and to develop a staff evaluation system. A uniform personnel records and reports system is still being developed, but is as yet not complete, particularly for the field staff. Recently, WARDA established a full-time, professional, Personnel Officer position which was filled about two months ago by an officer from a member State. He will work under a new Chief of Administration and Finance, provided by UNDP, who arrived on October 15. These actions will permit continuing attention to WARDA's personnel questions.

WARDA is negotiating with Van Braeda Insurance Company, Inc., Antwerp, Belgium, to provide insurance coverage for medical risks and surety for its professional and non-professional employees.

Coordination, Control and Communication

The Executive Secretary applies a number of devices to coordinate and control program activities. A major innovation has been the installation of a network analysis system. This was initiated a year ago with FAO technical guidance and has since been reviewed and updated semiannually with FAO help. This process provides for grouping all projects and activities under division or program centers and for preparing sequential paths and scheduling (when feasible) for each.

Using this approach, programs are subjected to a logical examination of resource needs, implementation steps, requirements and time-phasing. It gives the Executive Secretary, division heads, and project leaders a measuring tool, a systematic means for examining the need for and status of work and a rationale for program activities. The process

has utilized full staff participation. The extent to which the system is and will be used effectively by all concerned and the degree of its application as a concept remain to be seen in practice. However, there is reportedly growing acceptance of it, and it has served some of the purposes intended. It is a device which can be of increasing value for programming and management control. Examples of the kind of charts being used are shown in Annex II E.

Other less elaborate techniques used by the Executive Secretary for control and communication purposes include, a) regular weekly meetings with senior professional staff to review problems and plans, b) regular weekly meetings of the Administration Committee in which the senior administrative staff participates, c) inspection visits to field projects and problem discussions involving division, department and project heads, d) formal staff notices, instructions and follow-up procedures, including increasing use of standard forms and reports, e) progress checks linked to network procedures by regular quarterly and annual written progress reports by the divisions.

Controls maintained in budget and accounting procedures are described in Chapter IV. Special note should be made of the use of services of an outside public accounting organization to help improve financial procedures, controls over the signing of documents which obligate or expend money and to post-audit under the Governing Council.

Communications control is being systematized by standard forms and procedures for the control of filing, by use of modern filing and correspondence techniques, and for information, weekly circulation to key officials of WARDA correspondence copies (except for confidential

documents). Simplified internal communication devices such as single two-way correspondence forms are being used. Headquarters field communications rely upon monitoring, inspection visits, periodic progress reporting, informal contacts and seasonal project completion reports. Whether more formal techniques or systems for two-way communications would be desirable is a question which deserves further study as the scale and intensity of field project activities increase.

Facilities and services. For the present level of operation, supporting elements appear to be adequate. The Government of Liberia provides excellent headquarters facilities in a modern Monrovia office building. Contributions from member States support headquarters administrative needs as well as WARDA project facilities for their own countries. WARDA is using manual, mechanical and computer (only for time-shared, sophisticated statistical analysis) means in its work. The balance of manual and mechanical operations seems reasonable. Automobile, clerical and other facilitative services require considerable maneuvering of resources in the Executive Secretariat. Resources are not always available at the level or time desired, and increasing program activity will impose additional strains. The procedures under which new projects are planned and conducted should ensure that necessary support is anticipated and costed; however, this will be a continuing administrative problem requiring close attention.

Plans are underway for standardizing and strengthening procurement, supply and service procedures. These are also necessarily influenced by individual donor requirements. A new Procurement Officer made available by a member State has just been employed and

will spend full time on questions of procurement, inventory control and supply of services including development of uniform regulations and procedures.

In achieving organizational and management objectives, the role of the Administration Division Chief will be a crucial one. Among other responsibilities are those of relieving the Executive Secretary of administrative tasks, managing the complex administrative and financial support and control services of WARDA and influencing and installing operational efficiencies and improvements. Such a role will require adequate delegation of authority and support by the Executive Secretary.

Recommendations

Supplementing other suggestions of this report, there are certain problem areas which I suggest be given more attention at appropriate future points in time:

1. The Executive Secretary should periodically call for an in-depth analysis of management, fiscal and operational practices, looking toward identification of problem areas, efficiencies and potential improvements. This includes budget and expenditure control and reporting which will continue to be critical for WARDA as it consolidates and moves ahead with its programs. The budget processes need closer linkages with network and other programming procedures. I support an earlier recommendation to the Advisory Committee for study of the possibility of applying in WARDA the proposal submitted to TAC in a report on Budgeting and Accounting Policies and Practices of International Agriculture Research Centres, March 2, 1973. Desirably, such studies could

be made to coincide with the next network updating exercise scheduled for March-April 1974 (or the one next following September).

2. As part of African institutional network links, it could be mutually useful to bring WARDA's professional management officers into association with CAFRAD (African Council for Administration and Research in Development). Both CAFRAD and WARDA might have professional resources useful to the other in African development and management.

3. It was not possible to discuss possibilities of systematic, general training objectives and plans with the Deputy Executive Secretary, who was away during my visit. I suggest further examination of any feasible ways WARDA might develop and apply plans for advanced academic training of African nationals in professional categories likely to be needed in future WARDA (and member State) programs. Such training would have as objectives, a) relieving potential future shortages of professionals needed regionally or nationally for WARDA programs and b) reducing dependence upon expatriate professionals and enhancing African resources for such programs.

4. English and French language constraints will continue to reduce effectiveness of communications between WARDA professionals. The feasibility (cost-benefit) of developing greater bilingual capability for WARDA longer-term consultants and staff officers should be explored carefully to see if some training process might be usefully installed in the WARDA program.

III. FINANCIAL SYSTEM

Arthur R. Thompson

The framework of the budgeting and accounting practices of WARDA is provided for in the Constitution (Annex II A). The contracting Governments established a Governing Council which, among other functions, formulated the Financial Regulations of WARDA (Annex III A).

At its regular annual session the Governing Council considers and approves the draft program and budget for the forthcoming financial year. The budget is prepared and submitted by the Executive Secretary and the budget may have comments and recommendations of the Advisory Committee and the Scientific and Technical Committee. The presentation made by the Executive Secretary also includes financial reports of preceding financial years.

The Governing Council also appoints an external auditor; Issifu Ali and Co., a Ghana firm of chartered accountants, has been selected to perform this function.

Annual member States' contributions to support WARDA operations are based on a scale adopted by the Governing Council when the budget for the ensuing financial year is approved. The Governing Council may require special contributions in cash or kind from member States, as mutually agreed upon, in support of programs or projects carried out in their territories.

The Financial Regulations adopted in September 1971 by the Governing Council, provide the conditions under which the Executive Secretary may accept contributions and enter into agreements with donors without

special authority from the Governing Council. Contributions which may involve additional financial obligations for member States require the consent of the Governing Council. Grants for specific purposes are administered as trust funds according to mutual agreements.

The Executive Secretary has established a system of control and a system of accounts as prescribed in the Financial Regulations. The Administrative and Finance Officer of the Economic Commission for Africa established the accounting system and books of account for WARDA, using an FAO pattern. WARDA has conducted its accounting in accord with this system and Governing Council directives. The staff of five includes an Administration and Finance Officer (from FAO), three local accountants and a local clerk-typist.

The Executive Secretary has engaged a local public accounting firm, Pannell, Fitzpatrick & Co., to perform some accounting systems work, to study and compare accounting procedures of international centers and to study the possibility of mechanizing the WARDA system. The consultants have just reported on their study for machine accounting and have made recommendations to mechanize some of the accounting operations, particularly the distribution of disbursements. They have also designed a new chart of accounts and several new posting forms. The report is forthcoming from the public accountants of how the WARDA accounting system should be revised to suit the procedures followed by international centers and heed the financial regulations of WARDA.

A procurement review committee is used in the approval of procurements costing \$100 and above, and a review committee is used in the recruitment of all WARDA personnel.

The Executive Secretary has an administrative and financial plan for 1973 and 1974. Salient aspects are these:

1. Recruitment of a new Chief of Administration. (Arrived October 15.)
2. Review of Staff and Financial Regulations.
3. The administrative budget for 1974 has been prepared for submission to the Governing Council. It is to be recast along lines of the budgeting and accounting policies and practices proposed by the Consultative Group on International Agricultural Research (Annex III).
4. Negotiate with France: a) financing agreements and b) recruitment of an associate administrator.
5. Accounts. Identify books and records for machine accounting, specify and order new equipment, recruit and train machine operator.
6. Contract. Retain Pannell, Fitzpatrick & Co. to perform a monthly summary review and prepare a bank reconciliation.

It is desirable that WARDA follow internationally accepted financial policy compatible with other similar multinational, fund-granted institutions and effect the required changes as soon as possible. WARDA is taking steps to conform and make itself eligible for participation in grants from a broader range of instrumentalities.

IV.
A REVIEW OF BUDGET AND ACCOUNTING PROCEDURES
AS APPLICABLE TO A.I.D. FUNDS.

John E. Larocca

Budget

The budget function for administration and program is carried out separately from that of the accounting function. The budget plan is based upon priorities, and availability of resources to programs within the organization. There is planning beyond the immediate year based on stated assumptions. The program budget formulation and preparation is made by the Executive Secretary and senior advisers from all the organizational elements. The administrative budget is prepared by the Chief Administration and Finance Officer. The Executive Secretary reviews continually the budget execution. Monthly comparisons of administrative budget expenditures are made available to those who have responsibility for controlling costs (Annex IV S).

Financial Accounting System

The Chief Administration and Finance Officer, funded by UNDP, had departed post some weeks prior to the arrival of the A.I.D./W team, and his replacement arrived during this review.

The accounting system presently used by WARDA was developed by the Chief Administration and Finance Officer of ECA/UN at Addis Ababa, Ethiopia. The system was further refined in July 1973 by establishing sub-project ledgers by sources of funds and field of activity (Annex IV A). The firm of chartered accountants, Pannell, Fitzpatrick, was engaged to analyze the expenditure ledgers into source of funds and field activity from the inception. Adequate documentation is maintained and is readily

accessible to support transactions recorded in the accounting records. Costs are clearly identified and segregated in the accounting records as to source of funds, field of activity, location, and expenditure classification.

Monthly financial statements are prepared and conform with generally accepted accounting principles. The accounting and budget systems are compatible to facilitate effective budget administration (Annex IV B).

The September 1973 financial statements do not reflect the FY '73 A.I.D. Grant Agreement (\$125,000) nor Government of France Agreement (FF1,600,000). It is recommended that donor agreements be reported on the accounting records.

Processing Invoices

The system used to process voucher payments includes sound auditing practice in voucher payment. Checks are mailed directly to vendors or picked up at the WARDA office with proper identification and signature by the payee of payment received (Annex IV F).

Time and Attendance

No system of timekeeping is maintained for the professional staff. However, for the local and non-professional staff a timekeeping register is maintained by the Personnel Officer.

Payroll Preparation

One check is made for the local and non-professional payroll, payable to the Chief Accountant, who also prepares the Payroll Journal. The actual payment is made in cash by the Chief Accountant, and receipts are obtained by him. Unclaimed pay envelopes are retained by the Chief Accountant until paid.

Recommendation was made to the Executive Secretary that the distribution of pay envelopes should be made by personnel not involved in the timekeeping or payroll preparation. The paychecks of the professional staff are distributed based on the individual's instruction (Annex IV - G & H).

Petty Cash

Responsibility for the petty cash fund (\$500) is maintained by the Chief Accountant, and in his absence the Chief Administrative and Finance Officer. An imprest system is used with Petty Cash forms.

There are restrictions on disbursement payments over \$5.00, and these are made, on exceptional basis, when approved by an authorized official (Annex IV - I & J).

Cash Receipts and Disbursements

A prenumbered cash receipt system is maintained, and the person receiving cash is independent of the one posting to the cash book. All the mail is opened by the Executive Secretary's office, and checks are forwarded to the person(s) who prepare(s) bank deposits and for posting to the accounting records. Receipts are deposited regularly. The limited size of the operation precludes the establishment of a separate cashier function.

The checks are prenumbered, voided checks are kept and filed, and a check register book is maintained. The signing of checks is limited to any two of the following officers: Executive Secretary, Deputy Executive Secretary and the Chief Administration and Finance Officer. When available, the Executive Secretary and the Chief Administration and Finance Officer sign checks. The alternates can sign only when one of the

signators is absent. Again, the size of the operation precludes designating officials whose duties include payroll preparation, handling petty cash funds, posting to accounting records and approving of vouchers. Supporting data accompany checks when submitted for signature and countersignature (Annex IV F).

The signing of checks in advance or payable to "Cash" is prohibited.

Bank reconciliation is made by the Chief Accountant, who is involved in the disbursement and payroll procedures. The Executive Secretary is negotiating with a local chartered accounting firm to review the vouchers and check the bank reconciliation monthly.

Projects

The original A.I.D. Grant and its amendments provided \$500,000, of which \$80,000 was to be used for administrative costs of the Secretariat and the remaining \$420,000 was to be used for such activities provided in the purpose of the Grant as mutually agreed upon. Since the original Exchange of Letters on June 26, 1972, there have been three subsequent exchanges of letters. The last two completely changed the categories of activities specified in the first. Another change is contemplated by WARDA but not formally developed with ADO/Dakar (Annex IV K).

In August WARDA hired three U.S. technicians: a soil and water engineer, a rice processing specialist, and an entomologist. But to date, there has been no approval from A.I.D./W to finance these three employees, nor has there been any formal exchange of letters to amend the present agreement that is in effect (Annex IV - L, M & Q).

An analysis of the FY 72 grant-funded sub-project activities, concurred in by A.I.D./W (Annex IV N) in reference to Dakar TOAID A-3 of 2/7/73 showed that A.I.D. advanced WARDA \$280,000, and as of September 30,

1973, the recorded expenditures amounted to \$342,278.23 (Annex V O).

At a meeting attended by the A.I.D. Regional Development Officer (RDO), WARDA Executive Secretary, and the A.I.D./W team, this analysis was discussed, and it was agreed that a complete review of the sub-projects would be made to completely program the FY 72 and 73 grant funds, taking into consideration the most current plans and actions, and a summary budget would be prepared; a grant agreement amendment with sufficient detail and justification for A.I.D./W approval would then be drafted.

It was also agreed that the SER/FM/FSD representative would assist in the preparation of the required data to facilitate reimbursement to WARDA. The RDO would forward the bio-data, job descriptions, etc., and his recommendations of the three U.S. technicians (soil and water engineer, rice processing specialist, entomologist) WARDA has hired, who are to be financed by A.I.D. funds (Annex IV - L, M & Q) for A.I.D. approval.

A Budget/Voucher type report was developed with WARDA. The form envisages a continuation of the sub-project activity form and advance of funds for the activity. A revolving fund will be established, and reimbursement will be made on the approved voucher and a review of the data submitted to support the expenditures. This form will show the financial progress of the report, percentage of disbursements, and status of the funds advanced (Annex IV P).

This report was discussed with the newly-arrived Chief Administrative and Finance Officer, and he concurred with the format and has given assurance that the report will be forwarded quarterly to A.I.D.

Commitment Ledger

During the period under review WARDA had no commitment ledger or internal controls to insure the availability of funds prior to issuing firm financial obligations. The Accounting Section merely recorded disbursements after the fact. When the present accounting system is mechanized it will provide for a commitment ledger (Annex IV R).

The situation was discussed with the Chief Administration and Finance Officer, and he gave assurance that internal controls will be developed by having the Accounting Section prevalidate all documents as to fund availability before making a commitment. Without this control the new Budget/Voucher type system for A.I.D. funds would be inoperable.

V.
THE RESEARCH PROGRAM

Omer J. Kelley

This chapter is concerned with the research aspects of the WARDA program. Annex V A, WARDA Research Proposals, constitutes what has been envisaged so far by WARDA as their present research goals. It contains a detailed statement on objectives, budgets, etc. (Appendix No. 1, CG Recommendations).

The Research Department is responsible for coordinating all research concerned with production and marketing of rice in the member States. Further, it attempts to identify research gaps and to provide ways and means to fill these gaps. In carrying out these responsibilities it is trying to follow suggestions made during discussions leading to the establishment of WARDA, that during the foreseeable future, the Association could move most expeditiously toward its research objectives by utilizing the services of established research institutions with national, regional, continental and worldwide experience in rice research.

They could bring to the Association's rice research program the degree of scientific excellence and international recognition and support needed for its success. Also, they could draw upon research resources, experience and highly qualified scientists not otherwise readily available. IRAT, ORSTOM, IRRI, and IITA were possible sources of the expertise required.

During the period WARDA is receiving support the African research staff should have been trained to assume responsibility for African operation of WARDA.

The Research Coordinator, who is to be assisted by the Coordinators for Variety Improvement and Soils and Fertilizer Use, coordinates the research projects of the Association. (An agronomic statistician is also to be located at the headquarters. Annex II C).

Two types of research are undertaken:

- a) Coordinated Trials in a network of locations in WARDA member States, 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 backstopped by available knowledge and experience at the international level (Projects W₂, W₃ and W₄).

Coordinated Trials

The first set of Coordinated Trials, designed to provide information on the best varieties available for each area and on optimum fertilizer rates, was planted in June/July 1973 at 27 locations in West Africa. There were 100 trials in all (Annex V B). Twenty-five insect and weed control trials and another 25 variety trials are planned for member States which have a second crop season starting in November/December 1973. It is expected that the total number of trials will increase to about 225 in 1974. The number of test locations, likewise, is expected to increase during the coming years and the total number of trials is likely to be 275 in 1975, 325 in 1976, and 375 in 1977.

For each trial, detailed guidelines and instructions are issued, along with data collection and trial information sheets, to enable proper

interpretation of the results obtained (Annex V C). The seed rice for the 1973 Coordinated Trials was supplied by member States, IRRI and Thailand, and was treated at the Central Agricultural Experimental Station, Suakoko, Liberia, before being redistributed to member States for sowing the trials.

A sound program of coordinated trials and effective links between WARDA and the national extension services should lead to a rapid introduction of improved varieties and better cultural practices among the rice farmers in West Africa.

A review of Project W₁, its objectives, method of operation, budget, and so forth, leads me to the following comments:

It is the first year of the Coordinated Trials and they appear to be very well planned and coordinated to date. We visited one such set of trials at Suakoko and found the various experiments and plots to be in excellent condition, well taken care of, and that the workers were competent and enthusiastic. Further, the scientist in charge was working with nine county agents and sixty project agents who were carrying out 200 farm trials using the package approach of improved varieties, fertilizers and plant protection. This extension to farmers' fields is certainly to be commended.

The following table gives the proposed budget for Project W₁ for the next four years. The capital cost is mainly for strengthening the Ibadan (Moor Plantation) Regional Plant Quarantine Station with facilities to execute WARDA's rice improvement introduction program (Annex V E).

BUDGET, W - COORDINATED TRIALS

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Total</u>
<u>Capital Cost (Investment)</u>					
<u>Total</u>	110,900	5,500	9,000	5,500	130,900
Composed of:					
Equipment	30,960	-	3,500	-	34,460
Installation	46,200	5,500	5,500	5,500	62,700
Other	9,840	-	-	-	9,840
Initial investment	23,900	-	-	-	23,900
<u>Operating Cost</u>	656,650	714,750	731,250	747,750	2,850,400
Personnel:					
Experts	5*	5	5	5	
Technical assistants	3	3	3	3	
Jr. technical staff	58**	70	70	70	
Others	14	14	14	14	
<u>Project Costs W₁ - 1974-77</u>	<u>767,550</u>	<u>720,250</u>	<u>740,250</u>	<u>753,250</u>	<u>2,981,300</u>

*Four located at Headquarters, one at Ibadan

**Two to be located at each field trial location. Cost per person budgeted at \$3,000 or \$6,000 per location. An additional \$300 is provided for each field trial for supplies and general expenditures.

The relationship with the Moor Plantation is to be commended, and certainly the costs related to this cooperative activity are fully justified. All other costs seem to be in order, with the possible exception of the junior technical staff. It is recognized that it is essential to have junior technical staff at each of the locations where the coordinated trials are being conducted and that such people must be available for these trials on a priority basis. Further, it is essential that these people be trained, as has been done, and it is expected that training will continue for the next two or three years. Likewise, after they are trained it is important that they not be shifted to other jobs but that they continue to be available for the work for which they were trained. By providing up to \$3,000 of their salary in the

budget these items are pretty well assured. However, there may be some defects.

It would appear that a better arrangement would have been, assuming local funds were available, for the junior technical staff to have been provided by the host countries. This would tend to strengthen the national research effort of each of the individual countries. It is suggested that this budgetary item be left in the project as it is, but that at the end of three years a hard look be taken to determine if these costs could be shifted to the respective Governments where the trials are being conducted.

Recommendation No. 1 - that as soon as possible, a way be found to finance the junior technical staff directly by the host member States.

Special Research Projects

WARDA's plans for special research projects in varietal improvement (W₁) are for the reinforcement of breeding work at Mopti, Mali, for deep water and floating rice, and at Rokupr, Sierra Leone, for mangrove swamp and irrigated rice. WARDA's role in breeding work for rainfed rice will be limited in nature, as varietal improvement for this type of rice cultivation is being carried out both at IITA, Ibadan, Nigeria, and Bouake, Ivory Coast (Annex V A).

There appears to be some uncertainty concerning the Mopti program. At present there are one senior plant breeder (French) and three junior scientists at Mopti. It is understood that if WARDA places a senior plant breeder at Mopti the present plant breeder will return to France. The problems associated with the isolation of this station are also frustrating. Adequate facilities for field research and office space

should be available (a new station is to be developed at Mopti-Nord) at the time that the expert takes up his duties.

Project W₃ is concerned primarily with the existing soil fertility and soil management problems of mangrove soils. It is estimated that on a worldwide basis there may be as much as 15 million hectares of mangrove swamp soils that can be brought under rice cultivation (Annex V A, pp. 18-19). It is proposed to place a senior soil scientist and a research assistant at Rokupr, and a research assistant at Richard Toll to assist the present IRAT pedologist in the soils program.

WARDA has developed detailed research proposals for Projects W₂, W₃, W₄, water management and mechanization (Annex I D). When funds and experts are available for implementing W₃ it is suggested that WARDA consider bringing in some consultants from A.I.D.'s University Consortium that deals with tropical soils to review the problem and make suggestions not only on the mangrove swamp soils but also on other important soils of the region.

Research on insect pests, diseases and weeds has been integrated into one project labeled W₄ Plant Protection. 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 will be undertaken by an entomologist to be stationed at Rokupr, Sierra Leone, and by a pathologist to be stationed at IITA, Ibadan, Nigeria. 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 rice in commercial plantings (Annex V A, pp. 20-22).

It is my belief that not enough attention is being planned for the weed research problems. A study of the area by a knowledgeable weed expert (possibly someone from Oregon State University) could provide needed information on the magnitude of the weed problem and whether additional research is needed, or only operational activities are required.

In studying and discussing the plans for Projects W₂, W₃ and W₄, with WARDA officers it is my belief that more work and planning are needed on all three of these projects when funds and experts are available. It has been difficult to plan for these projects with the uncertainty of the availability of personnel. It has been planned for donor agencies to provide personnel rather than cash. The personnel so far have not been forthcoming.

Recommendation No. 2 - It is recommended that the proposals for W₂, W₃ and W₄ be elaborated in a form showing their regional significance, their relation to international and regional centers, their role and supporting effects to national research stations, and their operational procedures. This should then be made available to CG/TAC and other potential donors. It is further recommended that when funds and experts are available for each, W₂, W₃ and W₄, a small team of experts review the details of the research

plans. This should include the role of the senior scientists of each project in assisting scientists and programs at the host country stations as desired or necessary to carry out regional programs and to upgrade the local research works.

There is no mention of plans for on-farm land and water management in WARDA's present research portfolio. (Annex V A). (See Appendix No. 2 - Other Activities Relevant to WARDA's Research Program) As indicated earlier, a project plan exists (Annex V D). It was quite obvious that even at the experimental site at Suakoko there is a need for improved land leveling and water distribution facilities. On farm fields the problems are even more acute. While it may be true in the short run that variety and fertility trials and initial plant protection may give quicker results in terms of rice yields, it is apparent that as WARDA moves forward, there are tremendous potentials and opportunities for increasing production through improved water management practices.

Recommendation No. 3 - It is recommended that sometime in the not too distant future, possibly in the next one to two years, a competent team of water experts (possibly from CUSIWASH) be brought to the area to review and study the present situation and make recommendations as to what could be done from a practical operation standpoint and whether or not any adaptive research activities should be undertaken.

Recommendation No. 4 - It is recommended that WARDA hire an expert to assist the various research stations in developing improved land leveling and water distribution facilities for their research sites. This should be done as soon as feasible.

In outlining the research problems, their scope and method of operation, WARDA has called not only on the scientists of the region but also on scientists from IRRI, IRAT, IITA and other consultants. They are to be complimented on having developed a good first approximation of the problems and particularly on the adequacy and speed with which they have gotten W₁ underway. It appears that research on the problems addressed in Projects W₂, W₃ and W₄ is urgently needed, but whether they adequately address the major production problems of the region is not clear. The suggestions made, if carried out, would go a long way toward firming up these activities. The suggestions made on water management would also identify the scope and potential of improved practices.

As other problems arise or problems within these activities appear to become more difficult, WARDA should continue to seek the advice and counsel of the world's best experts in whatever field or problem area seems to be important. As the individual scientific capability of the countries involved continues to increase, there will be less need for expatriates but a greater need for these scientists and their institutions to become more fully a part of the world network of research activities that relate to their individual problems. This will mean

more travel to other institutions working on similar problems and increasing the number of scientific seminars and meetings that relate to the research being done on specific project activities.

The problems related to marketing, processing and storage also need to be looked into in the near future. While these are being considered in the Development area of the WARDA program, it might still be a good idea to have some research people in these fields review these problems.

A P P E N D I X 1
to Chapter V

RECOMMENDATIONS CONCERNING PROJECT W₁

The Research Proposal (W₁, W₂ and W₄ - Attachment A) was reviewed by the Technical Advisory Committee (TAC) of the Consultative Group on International Agricultural Research (CG) at their July 1973 meeting. At the CG meeting (August 1-3, 1973) TAC recommended to the CG that under certain conditions it should be prepared to help finance that part of WARDA's research program (item W₁) which consists of Coordinated Trials at a network of locations in West Africa designed to have a direct impact on rice development of the region.

In considering the TAC recommendations, the basic point underlined by the Consultative Group was that WARDA, should, as proposed by TAC, make satisfactory arrangements for strengthening the scientific management of the present project. Such arrangements, TAC suggested, should include a Steering Committee responsible for the project and a Scientific Director appointed by and responsible to the Steering Committee. TAC further recommended that responsibility for overseeing the Coordinated Trials and the assisted training activities, as well as ensuring the active involvement of the appropriate International Agricultural Research Institutes in the program, should be clearly and unequivocally placed in the hands of the Steering Committee. To this end, TAC proposed that authority for the design and direction (execution) of the project, including authoritative expenses, monitoring of programs and phasing of the expansion of the Coordinated Trials should be vested in the Steering Committee. The Committee would appoint, in consultation with the

Executive Secretary of WARDA, a Scientific Director who would report to it while it, in turn, could report to WARDA. The exact relationship of WARDA to the Committee was more or less left up to WARDA. It was felt, however, that it would be best if there was one Scientific Director for the WARDA Research program as a whole. The essential points are that the Committee, however it is related to WARDA's existing structure, should be so composed and of such authority and staff as may be necessary to give strong scientific leadership to the project, and that the Scientific Director should be a man who can effectively lead the program execution preferred in an integrated manner with W₂, W₃ and W₄.

The Executive Secretary of WARDA has written to Mr. Demuth of CG agreeing to the conditions proposed by TAC and the CG. Assuming that his letter is satisfactory to the CG, it would appear that funds could be made available by CG for W₁ by January 1974.

A P P E N D I X 2
to Chapter V

OTHER ACTIVITIES RELEVANT TO WARDA'S RESEARCH PROGRAM

Omer J. Kelley

Training

WARDA's training programs are considered urgent in order to quickly and fully convert accumulated research findings into rice production. Because of the bilingual nature of WARDA member States, all courses are given in both French and English. This implies translation of training manuals and simultaneous interpretation of all lecture notes.

Rice Production Specialists' Course

This is a six month course designed to produce rice production specialists who are to return to member countries to organize, manage and conduct training courses for extension workers, who in turn will assist rice farmers to increase their yield. The 1973 course started at the IITA, Ibadan, Nigeria, on June 1, 1973, and is expected to end in November 1973. It is being attended by 23 trainees from 11 member countries. The long training period will allow adequate emphasis on all aspects of rice cultivation and processing as practiced at the farm level. The trainees are expected to acquire knowledge of both production techniques and extension methods. Trainees are expected to possess a B.Sc. in Agriculture or a diploma in Agriculture plus five years' post-qualification experience in rice production.

Field Assistants' Course

This is closely linked with the successful implementation of WARDA Coordinated Trials. The training of these Field Assistants will ensure standardization of observations and data collection. The first course

was held in February 1973 at the University of Liberia Farm, Johnsonville, Liberia. It was attended by 37 Field Assistants who returned to their respective countries in March 1973 to supervise the 100 Coordinated Trials in progress in member States. The Field Assistants are directly supervised by Senior Field Officers of member countries, while overall coordination of the program is by the WARDA Research Coordinator.

Seminars

Seminars are to be regularly organized to tap existing rice knowledge in the region and elsewhere. The first three seminars on varietal improvement (39 participants), soils and fertilizer use (44 participants) and on plant protection (44 participants) held in Monrovia, proved helpful in formulating and finalizing arrangements for the Coordinated Trials (W₁). They also assisted in further improving on the WARDA Special Research Projects (W₂, W₃ and W₄). The first two were held in January 1973, while the last one was in May 1973. They were attended by scientists from all member countries, IRRI, IITA, IRAT, ILACO (Netherlands), FAO/UNDP, ECA, OAU/STRC, the Quelea Project in Chad, Upper Volta, U.S.A., France, United Kingdom and the Netherlands.

Research Review Meeting

WARDA plans to hold an annual review meeting at which a Research Report incorporating all the results obtained from the Coordinated Trials will be presented and discussed, along with those from rice research stations of individual countries and international research organizations in the region, like IRAT and IITA. This annual Research Report may prove to be an up-to-date, handy document, not only for research and

extension workers in West Africa, but also for other rice workers, organizations and countries, as it will cover all research activities on rice in West Africa.

Linkages with International Research Institutes

In research, strong linkages are sought and made with international research organizations, like IRRI, IITA, IRAT and CIAT to benefit as much as possible from their results and experience, to avoid duplication and to maximize the output from the investments to be made.

Seed Storage Center

WARDA is building a seed storage and treatment center at the University of Liberia Farm, Johnsonville, Liberia. It is to import seed rice from member countries and elsewhere, treat and process it and later dispatch adequate quantities to all test locations for WARDA's cooperative experiments.

Rice Quarantine

The strict plant quarantine regulations in force in West Africa, coupled with the limited facilities at the Regional Plant Quarantine Station at Ibadan, Nigeria, slow down the introduction of the large numbers of rice varieties needed for WARDA's research projects. To overcome this, WARDA is supplementing the facilities at the Regional Plant Quarantine Station to enable it to cope effectively with its introduction program. In addition to some capital improvements, one senior technician and two technical assistants are stationed there.

A P P E N D I X 3
to Chapter V

REVIEW OF WARDA COORDINATED TRIALS

Lloyd Clyburn

The Coordinated Trials include seven standard, randomized block comparisons of varieties and one randomized block comparison of fertilizer treatments (Annex IV C).

In the Membership Agreement, the member country commits the land, water and buildings for the trials. WARDA provides the cost of materials, labor and plowing, budgeted at \$300 per set of trials. WARDA also provides two rice plot technicians for each trial, first giving them special training in plot management. WARDA budgets \$3,000 per technician.

The seed for the trials was treated and packaged by the personnel at the Suakoko, Liberia, station, a gratis contribution of the Liberian Government and FAO. personnel, and mailed along with complete forms and instructions to the member countries in May.

Except for the Suakoko station, this interim report is based on an interview with Dr. Hellinius ten Have, Director of the Research Department. His information was obtained from supervisory trips, correspondence and general knowledge of specific local situations. The first round of supervisory visits had not been completed at this time. The A.I.D. team visited Suakoko and followed up on its linkages to a production project.

Because of the access of information about the Suakoko site to the team it is treated in more detail than the other stations.

Liberia

Suakoko:

<u>Personnel</u>	<u>Nationality</u>	<u>Source</u>
Agronomist (Director)	(Liberia)	(GOL)
Agronomist (Rice)	(U.K.)	(FAO)
Agronomist	(U.S.)	(FC)
Plant Pathologist	(U.S.)	(FC)
Plot Technicians	(Liberia)	(GOL) - 3
Plot Technicians	(Liberia)	(WARDA) - 2
Laborers	(Liberia)	(GOL) - 25

All plots were planted and cultured according to design. Plots were internally uniform in growth and appearance, completely free of weeds. Each entry was clearly labelled. There were seed increase plots of previous best entries.

Outreach: Station supervises 200 trials on farms.

Production Linkages: Accelerated Rice Production Project.

County Agents	(Liberia)	(GOL)	9
Project Agents	(Liberia)	(GOL)	60
Project Manager	(U.S.)	(FAO)	
Agriculture Engineer	(RP)	(FAO)	
Extension Expert	(UK)	(FAO)	
Agronomist	(Taiwan)	(FAO)	
Associate Extension Expert	(Netherlands)	(FAO)	
Associate Agronomist	(Finland)	(FAO)	
Agronomist	(Chile)	(FAO)	

The promise factor or leverage offered by the project amounts to increasing the yield of paddy from 700 to 900 pounds up to 2000 to 2200 pounds per acre for cooperators. The prime usefulness of WARDA is providing the project superior plant materials grown on their own ground that otherwise would not be available.

Ivory Coast
(IRAT)^{1/}

Bouaké:

Agronomist	(France)	(IRAT)	2
Plant Technician	(IC)	(WARDA)	2

Ferkessedougou:

Conditions unknown

Man:

Conditions unknown

Odiénné:

Conditions unknown

Production linkages: Supports a \$10.3 million rice production project, the Sologo dam (seed production, \$0.5 million) and training (FAC, \$0.7 million).

Dahomey

Houéda: (IRAT outreach)

FAC scientists available

Plot Technician	(Dahomey)	(WARDA)
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There is danger of losing one of the two floating rice trials due to the lateness of rain.

Ina:

Conditions unknown

^{1/} Institute of Research in Tropical Agriculture, a French-supported institution

Ghana

Nyankpala:

Rice Agronomist	(Ghana)	(GOG)
Plot Technician	(Ghana)	WARDA)

Plots in excellent condition.

Outreach: A team of five German expatriates is doing fertilizer trials and demonstrations on farms. This area has the potential for rainfall rice production on a large scale.

Production linkage: Through the German team.

Kpong:

Rice Agronomist	(Ghana)	(GOG)
Soil Scientist	(-)	(FAO)
Plot Technician	(Ghana)	(FAO)

Plots in excellent condition.

Outreach: Volta River Authority

Production linkage: This station supports the Volta River Project.

Mali

Kongoni:

Senior Agronomist	(Mali)	(GOM)
Plot Technician	(Mali)	(WARDA)

Plots in excellent condition.

Mopti: (IRAT)

Agronomist	(French)	(FAC)
Agronomist	(Mali)	(GOM)
Plot Technician	(Mali)	(WARDA)

Possibly two out of the three trials failed, due to the drought.

Mali (Continued)

Sikasso:

Agronomist	(Mali)	(GOM)
Plot Technician	(Mali)	(WARDA)

Plots rated fair to good

Outreach: Operation Rice

Production linkage: Operation Rice, FED \$ 1.9 million

Rainfed rice research, FED 0.5 million

Flooded rice cultivation 11.8 million

Mauritania

Kaédi:

Agronomist	(Mauritania)	(GOM)
Plot Technician	(Mauritania)	(GOM)

Recent telegram: Plots in good condition.

Production linkage: 2nd FED - 10 Small Rice Production Schemes.

3rd FED - Development of Small Rice Irrigation
Schemes.

Guidimaka Basin (2000 ha). Total investment
\$1.166 million

(Not known to link with the Mainland Chinese Project at M'Pavrrrie)

Niger

Kolo:

Agronomist	(Niger)	(GON)
Plot Technician	(Niger)	(WARDA)

Condition of plots unknown.

Production linkages: 3rd FED Development of Niger River Laevlook
\$2 million

Nigeria

IITA:

Plant Breeder (IITA)

Soil Specialist (Fertilizer) (IITA)

Trials properly implemented.

Badeggi:

Ilushi:

Bernin Kebbi:

Seed reported lost.

Senegal

Djibelor:

Plant Breeder (France) (FAC)

Soil Scientist (Senegal) (GOS)

Entomologist (Senegal) (GOS)

Plot Technician (Senegal) (WARDA)

Plots in good condition.

Richard Toll:

Agronomist (France) (IRAT)

Soil Scientist (Senegal) (GOS)

Plot Technician (Senegal) (WARDA)

Plots in good condition.

Sefa:

Volunteers (France) (France)

Senior IRAT staff on call.

Production linkage: 1st, 2nd and 3rd FED: Consamance \$8 million

3rd FED IDA: Rainfed Rice, West Senegal \$1 M

FAC: Improvement of Delta Rice Production.

Sierra Leone

Mange:

Team	(China)	(Peoples Republic of China)
Plant Technician	(S.L.)	(GOSL)

Condition of plots unknown.

Rokupr:

Plant Physiologist	(U.K.)	(U.K.)
Soil Scientist	(U.K.)	(U.K.)

Plots in good condition.

Production linkage: China: a) Swamp Rice Development
b) Irrigation/Little Scorcie Plain
Irrigated Rice, Torma Bum

Togo

Mission Tove

Sofouboua

Conditions not known (former Talevondse project)

VI. DEVELOPMENT PROGRAM

Lloyd Clyburn

In the UNDP-WARDA agreement of February 21, 1973, it was established that WARDA's resources and efforts would be addressed to a single program of research and development (Annex VII D, p. 5). In implementation this evolved into the Research Department and the Development Department, each with its program and projects. The Research program was examined in Chapter V.

The document, WARDA/SC2/73/3, WARDA Development Proposals, is the latest published statement of the Development Department's near-term program, budget-planned through 1976 (Annex VI A). This chapter is an analysis of the WARDA document.

The WARDA Mid-term Development Program is addressed to quick impact on production through short-cycle activities which remove critical constraints.

D1 - Seed Multiplication Program

The seed multiplication program proposes to provide breeder seed ^{1/} of the proven (best) varieties to member States in quantities adequate for multiplication to commercial quantities. The project will also provide breeder seed for renewal of pure lines. This project has been undertaken in its entirety by FAC at the Richard Toll Experiment Station (Annex VII C). It is a complete package and it is in very good hands.

D2 - Training

The training activity is seen as four or more elements: one is a

^{1/} Breeder seed is the output of the plant breeding activity, generally conducted at experiment stations. It is multiplied to successively larger quantities until it reaches the farmer, usually through commercial channels.

six months intensive course in rice production and extension methods for member country personnel who will be expected to implement national production schemes through training and supervising other national government personnel. IITA is providing this service on a flat fee basis for the 1973 round. A.I.D. and Ford Foundation granted funds to WARDA for this purpose, having the understanding that the activity was critically needed and that funds were not available from other sources.

The project description does not provide for follow-up of the graduates as they take their places in national implementation programs. However, the UNDP-WARDA agreement calls for "establishing or assisting in the establishment of advisory services and training and extension facilities . . ." (Annex VII D, par. 1.02^[c]), which establishes that field follow-up is anticipated.

Although seminars are not mentioned in the WARDA document (Annex VI A) they are provided for in the UNDP agreement. In 1973, separate seminars were funded by each, UNDP and A.I.D. A.I.D. was requested to provide support for one seminar (socio-economic) in fiscal year 1974.

The third type of training envisaged, not mentioned in the WARDA document but provided for in the UNDP agreement, is fellowships to study abroad for six months each for one person each in the field of storage and processing, economics and documentation.

The fourth type of training called for would provide fellowships for graduate study for six member-state government officials a year for an unspecified period. To this proposal, it is suggested that a manpower plan for the rice program of the member States is needed, and from that a training proposal could be developed.

As for A.I.D.'s role in supporting training, as long as the Agency is associated with the research projects it should assist with the training of research personnel to the extent that external assistance is required. This could include the annual seminars of research personnel, as the activities are to a considerable degree planning sessions. But assistance in training, seminars and extension should be considered a UNDP function until otherwise enunciated.

D3 - Development Coordination

The Development Coordination activity as presently seen consists of a team whose job is to analyze projects and prepare project proposals (primarily capital projects) and a Project Quantification unit which would support the project design team.

The Executive Secretary stated that he has an agreement with the IBRD that the two institutions would jointly study IBRD-IDA project proposals by WARDA member countries.

The UNDP agreement provided for an economist, a storage and processing specialist and a data processing specialist for these activities. Presently the team consists of an economist, a storage and processing specialist, a soil and water utilization engineer and an agronomist. A.I.D. funds have been requested informally to carry the storage and processing specialist and the soil and water utilization specialist. A.I.D. approval has been withheld pending conclusions reached from this study. The UNDP agreement has not been amended to reflect either the change in personnel or A.I.D. participation in the project.

The purpose of the project seems to be consistent with the WARDA goal of increasing rice production in West Africa. Equally important,

as stated in the proposal (Annex VI A, p. 11) the activity can conceivably gain considerable efficiencies for member States by steering them away from losing projects, including advising them when rice investment requirements have been met.

D4 - Documentation

The Documentation project proposes to provide a research library for the WARDA and network scientists and a technical publishing service for the same group - i.e., publish WARDA research and pertinent information from other sources. A question-and-answer service is also proposed.

While this is a UNDP-supported activity, I take the liberty to observe that such a service is totally essential for the research program to be of any usefulness at all, and further that as far as it goes, the service appears to be well planned and well managed.

In addition to WARDA member programs, the output of the Documentation service should be available to all rice development schemes and related projects in the region.

Further, WARDA should have a rice extension information service and a training materials service to support the production projects of its member States. This is inferred in Chapter 1.02(c) of the UNDP agreement (Annex VII D). It provides for a documentarian, a photographer and a translator. To provide the additional services suggested here, a bilingual agricultural editor, two extension writer-editors (one French-speaking, one English-speaking), an illustrator and a layout artist would be required.

WARDA has requested that A.I.D. fund a translator and certain supporting costs.

Identification of Donor Efforts

Except for membership dues, WARDA's resources flow from bilateral agreements with donors. Each agreement states specified areas of activity to be addressed and the results expected. FAC, for example, agreed to assume the responsibility for first stage seed multiplication (Annex VII C). In its agreement, the UNDP assumed the responsibility for -

- a) advising the Executive Secretary on program coordination,
- b) developing its information program,
- c) assisting with training, conferences, seminars, advisory services and extension services, and
- d) analyzing and writing capital and technical assistance projects for member States (Annex VII D)

In its agreement, A.I.D. addressed the research efforts, which was avoided by the UNDP. The Netherlands has a very discrete part of the research effort. Other donors provide resources for specified and discrete program activities.

The identification of purpose, effort and output is essential to donor agencies, because they must account to their sources for the grant funds. Item 1.02(d) of the UNDP area of activity is a case in point. Besides the UNDP personnel and other resources addressed to this activity, WARDA has employed two American experts, for whom it has requested A.I.D. support. They work with UNDP personnel as a harmonious team. This puts the responsible UNDP agent in the position of not being able to evaluate whether the UNDP effort succeeded, or failed, because of or in spite of the A.I.D. input. The same may be said for the documentation program, should A.I.D. respond to that request.

To call on a second donor for supplementary assistance deprives the primary donor of alternative responses. For example, he could have made a professional judgment that the additional resources were not critical to the outcome of the project and rejected them. Or he could appeal to his sources for supplementary funds, and if successful provide the assistance, and finally evaluate the outcome. While this course may have been followed in the case of the project elaboration activity, it was not taken to the point of ultimate resolution. While it is conceivable that the UNDP Special Fund was fully allotted in this case.. it might possibly have been the preference of A.I.D. to increase its contribution to the Fund to accommodate the three technicians WARDA has requested from A.I.D. for service in the Development Department. It is recommended that this course be pursued.