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9. ABSTRACT

THE PROJECT: Facilitates communication among international and regional centers and institutions of the developed and developing nations via mutually supportive networks. Research, information and technical assistance linkages afford maximum research productivity, and maximum support for the expansion of the lesser-developed countries' research capabilities.

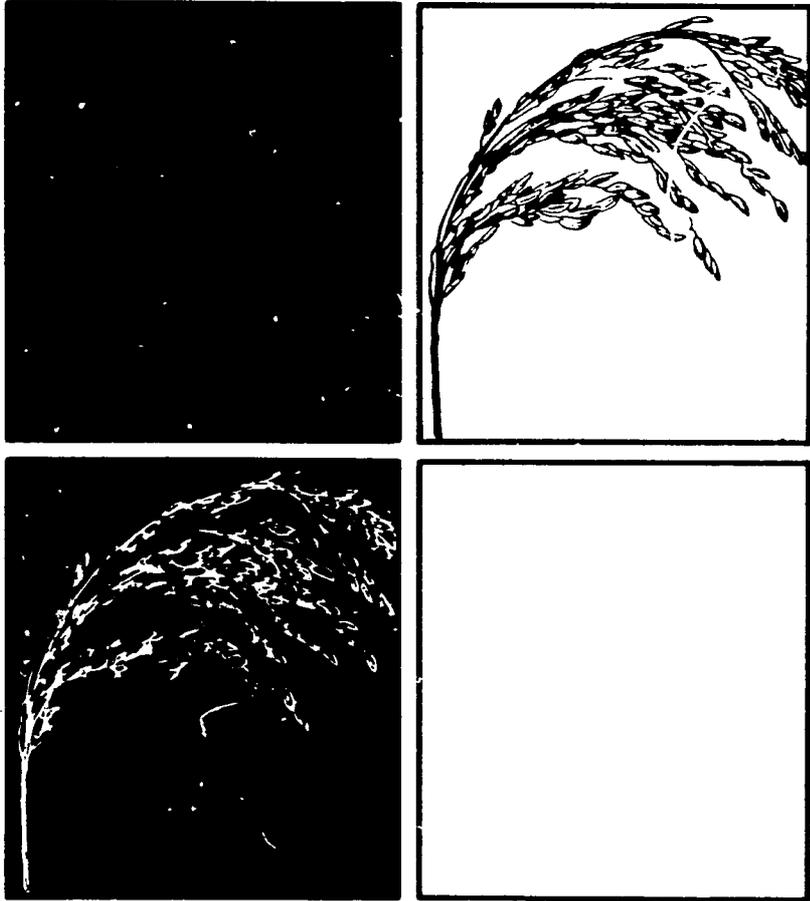
DURATION: 1973-1975

DEVELOPMENTS: Each of the seven publications in this series charts the major linkages within a particular network, and gives the function, services, and fund source for each of the network components. The reports include both AID and regional support projects, and a list of pertinent institutions and their addresses. To improve the situation of the lesser-developed countries farmer, the massing of resources is critical; these publications provide guidance on how useful linkages can be established.

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INTERNATIONAL AGRICULTURAL RESEARCH NETWORK

for
RICE

January 1974

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Department of State

Agency for International Development

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INTERNATIONAL RICE RESEARCH NETWORK

General

The Office of Agriculture, Technical Assistance Bureau (TA/AGR)^{1/}, is responsible within the Agency for fostering the build-up of global networks of mutually supporting research, information and technical assistance activities, in priority areas of agricultural development. These activities provide operating linkages among three sets of institutions: the national research systems of the less developed countries (LDCs), selected research organizations of the more developed countries that have particularly strong capabilities to contribute to the problems being addressed, and selected international or regional research centers. While network building is most advanced for the primary food grains -- rice, wheat and maize, it is also being rapidly developed for other major food crops such as sorghum, millet, barley, potatoes, cassava, yams, sweet potatoes, beans, cowpeas, soybeans, mungbeans, pigeon peas, chickpeas, as well as for selected areas of ruminant livestock.

Agency policy is to encourage and support research linkages and network building with special efforts to link the least developed countries into the networks. Emphasis also will be placed on regional research networks such as West African Rice Development Association (WARDA). This overall policy emphasis on networks reflects the following three sets of facts:

- agricultural research can be expensive, in use of scarce talent and money, and resources required to achieve significant breakthroughs often exceed by far what individual LDCs can muster.
- knowledge building on common problems can proceed at widely separated locations in mutually reinforcing fashion, when supported by suitable information exchange and coordination;
- the great bulk of research facilities and capabilities exists in the developed countries, especially in the U.S.; these can be utilized, through cooperative networking arrangements, to assist LDCs work on their problems and accelerate development of their own national research capabilities; widespread LDC participation, in turn, brings faster and more effective research results.

^{1/} Organizations and their acronyms mentioned in this publication are listed together with addresses on pages 10 and 11.

Networks have been encouraged to achieve "critical massing" of resources that are required to gain breakthroughs on the important agricultural problems of LDCs. The need for coordinating and integrating all related international research efforts concerning specific crops, crop diseases, pests, weeds, soils, animals, etc., led to A.I.D.'s program stress on strengthening worldwide research networks and research linkages with emphasis on production, quality and income distribution. Maximum research productivity and avoidance of duplicative efforts, as well as maximum support for expansion of the LDCs' own research capabilities, are the goals of this worldwide research network approach. The extreme shortage of LDC skilled manpower and their limited institutional capacity make donor cooperation necessary and call for rapid expansion of existing mechanisms of coordination.

The central purpose of the research networks is, of course, to improve the situations of the mass of LDC farmers. Thus the global problem-solving systems are not complete without effective internal linkages between the LDCs national research institutions and their farmers, causing the available worldwide knowledge to be adapted for local farming needs and actually used on the bulk of each country's farms. Thus the effectiveness of both the external and internal linkages of the national research organizations is critical in transforming worldwide capabilities into LDC farmer capabilities.

This publication is intended to provide guidance on how useful linkages can be established and to suggest agencies that may be contacted to explore new linkages or other relationships.^{1/} The international networks are resources for individual country programs which enable worldwide relevant technology to flow systematically to participating countries. These networks permit countries to become partners in coordinated worldwide endeavors to generate and exchange agricultural technology of mutual interest and value. They provide a powerful set of tools for use in assistance programming. A.I.D. (among other donors) can assist LDCs to establish operating linkages within particular networks, as appropriate to each case, by such measures as good offices, providing information on network activities, financing of training or advisory or other assistance services within the network, or of participation in workshops or conferences, or of exposure visits. Such activities could be integral components of larger projects to assist individual LDCs building of particular agricultural research capabilities, or they could be discrete components of more general efforts to assist agricultural expansion (e.g. financial from technical support or other "umbrella" funds). Information, in the form of reports pertinent to establishment of the described linkages, will be disseminated periodically by TA/AGR, and by international centers and other institutions in the research networks.

1/ Two additional related publications are available through AID/Washington. The first is the "Roster of Scientists for the Major Food Crops of the Developing World." It contains biographical citations and listings of the scientists by country of residence and by crop specialty. The second is "Increasing Food Production with Emphasis on High Protein Crops," Technical Series Bulletin No. 8, which gives information on linkages for all of the food crops supported by A.I.D., including rice.

Users of this material are encouraged to comment on the overall content of the bulletin, provide supplemental information to improve the network descriptions or fill present gaps in linkages, and to offer suggestions that may prove useful in the contemplated periodic updating of the publication, as well as in developing other network publications planned for the future. Communications should be addressed to the Office of Agriculture, Technical Assistance Bureau, Agency for International Development, Washington, D. C. 20523.

RICE RESEARCH NETWORK

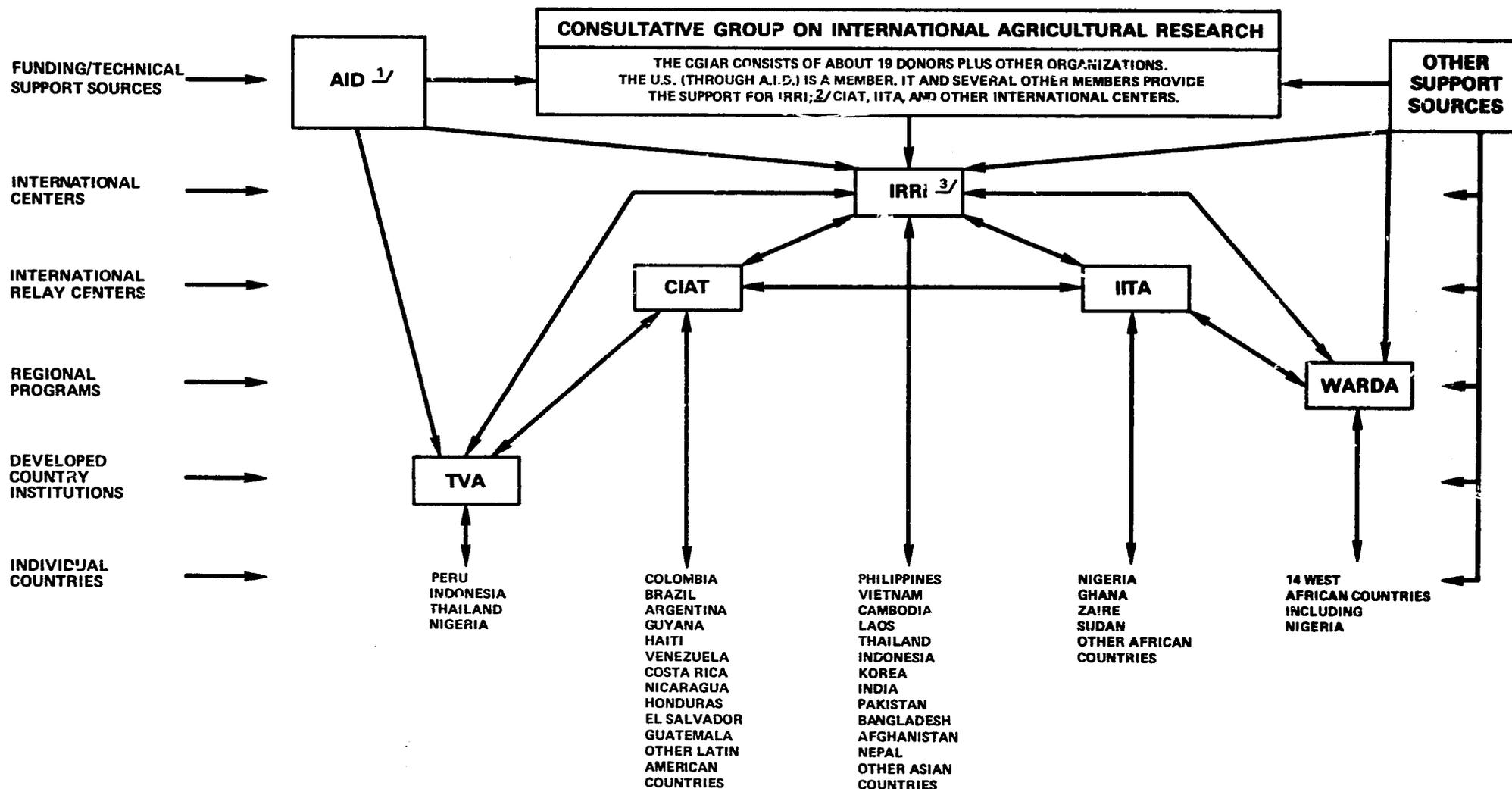
The rice research network is made up of a number of components -- the major participating research institutions and the tie-ins or linkages between them. A specific linkage may include joint research, training, advisory services, and information and material exchanges. The chart immediately following shows the major components and linkages of the international rice research network. The International Rice Research Institute (IRRI) is the hub of this network. The International Center for Tropical Agriculture (CIAT) and the International Institute for Tropical Agriculture (IITA) serve as relay centers -- that is, they link directly the work of IRRI to Latin America and Africa, respectively. The West African Rice Development Association (WARDA) is a regional program. Rice research institutions or programs in both the developed and less developed countries make up other integral components in the network. Also shown at the top of the chart are sources of funding and technical support for the various components in the research network. The national support to LDC research systems, while not reflected in the chart, is fully recognized.

All linkages between research components are not shown, or may be shown inadequately. This is particularly true with reference to links to, and within, individual countries. Moreover, since this is a dynamic system, changes in the network can be expected over time, resulting in new components being added which may require different linkages. Internal linkages within LDCs are not dealt with at all.

The basic information on the rice network usually needed by operational personnel is presented in descriptive form in the table immediately following the chart. The "Components" column refers to the individual research institutions or systems which are working towards the development of the technology needed for utilization by LDCs. Other columns show: the "Functions" performed by each unit in the network; "Service Available" from each; and how each unit is supported. Other funding sources may be sought for particular LDC linkages now lacking that may be deemed essential.

The next section views the rice network in terms of AID support. Again, particularly at the Mission level, the information may be incomplete and supplemental information from the field will be appreciated.

Finally, to facilitate communication, a list of the various institutions mentioned and their addresses is appended at the end of this publication.



^{1/} AID IS SHOWN APART IN ORDER TO INDICATE FUNDING LINKAGES TO U.S. INSTITUTIONS. AID ALSO CONTRIBUTES THROUGH THE CGIAR TO THE RELAY CENTERS SHOWN, AND THROUGH BILATERAL ARRANGEMENTS TO WARDA AND TO INDIVIDUAL COUNTRY PROGRAMS. OTHER DONOR MEMBERS OF CGIAR HAVE CORRESPONDING ADDITIONAL FUNDING LINKAGES, AS NOTED UNDER "OTHER SUPPORT SOURCES."

^{2/} FOR 1973 THESE ARE FORD FOUNDATION, IDRC, JAPAN, ROCKEFELLER FOUNDATION, U.K., AND WORLD BANK. OTHER CGIAR DONORS INCLUDE AUSTRALIA, BELGIUM, CANADA, DENMARK, FRANCE, GERMANY, KELLOGG FOUNDATION, NETHERLANDS, NORWAY, SWEDEN, SWITZERLAND AND UNDP.

^{3/} THE LINKS BETWEEN IRRI AND THE INDIVIDUAL COUNTRIES TAKE THE FORM OF: INFORMATION AND MATERIALS EXCHANGE (INCLUDING SEED, SEMINARS AND WORKSHOPS), JOINT RESEARCH, ADVISORY SERVICES, AND TRAINING. THERE ARE LINKS OF A CORRESPONDING NATURE - IN MOST CASES LESS COMPREHENSIVE THAN FOR IRRI IN THE CASE OF RICE - BETWEEN THE RELAY CENTERS, REGIONAL PROGRAMS AND DEVELOPED COUNTRY INSTITUTIONS NOTED, AND THE INDIVIDUAL COUNTRIES.

INTERNATIONAL RICE RESEARCH NETWORK

COMPONENTS	FUNCTIONS	POTENTIAL SERVICES	SOURCE OF FUNDS
IRRI - INTERNATIONAL RICE RESEARCH INSTITUTE, Los Banos, Philippines	Multidisciplinary production-oriented research; support to production programs; training and consultation.	Source of improved seed, technical information, training and consultant services; also support in research and production management; and, assistance with workshops and seminars.	Consultative Group on International Agricultural Research (CGIAR); bilateral arrangements for outreach and special projects.
CIAT - INTERNATIONAL CENTER FOR TROPICAL AGRICULTURE, Cali, Colombia	Serves as rice relay center to IRRI for Latin America; has limited research program; provides some training and consultation.	Basically the same as IRRI, but more restricted. Requests, if not handled directly, would be referred to IRRI. Service limited to Latin American countries.	- do -
IITA - INTERNATIONAL INSTITUTE FOR TROPICAL AGRICULTURE, Ibadan, Nigeria	Serves as rice relay center to IRRI for cooperating countries of Africa; has limited research program, and facilities for training and consultation.	Basically the same as for IRRI, but more restricted. Requests, if not handled directly, would be referred to IRRI. Service limited to African countries.	- do -
WARDA - WEST AFRICAN RICE DEVELOPMENT ASSOCIATION, Monrovia, Liberia	Promotion of rice production -- quantity and quality -- through research, dissemination of information, phytosanitary controls, storage, processing and marketing.	Source of information and seeds; cooperative research. Services directed toward needs of 14 participating countries. (Mauritania, Gambia, Sierra Leone, Mali, Ghana, Togo, Niger, Senegal, Guinea, Liberia, Ivory Coast, Upper Volta, Dahomey and Nigeria)	IRAT, AID/AFR, UNDP, Belgium, Netherlands, U.K., and participating countries.

INTERNATIONAL RICE RESEARCH NETWORK

COMPONENTS	FUNCTIONS	POTENTIAL SERVICES	SOURCE OF FUNDS
<p>TENNESSEE VALLEY AUTHORITY Muscle Shoals, Alabama</p>	<p>Tailoring and evaluating fertilizers for rice.</p>	<p>Source of technical information, consultation services and training; assistance with fertilizer evaluation trials, and workshops.</p>	<p>U. S. Government appropriations; AID.</p>
<p>OTHER DEVELOPED COUNTRY RESOURCES</p>			
<p>U.S.: USDA, University of California Texas A&M Univer- sity Louisiana State University University of Arkansas</p>	<p>Research, production and training.</p>	<p>Source of technical information; consultation services and training (in-service as well as degree).</p>	<p>U.S. Federal and State appropriations; AID.</p>
<p>Others:</p>	<p>- do -</p>	<p>- do -</p>	<p>- do -</p>
<p>LDC Institutions with strong programs including: India, Brazil, Colombia, Thailand, Korea, Pakistan and Ghana.</p>	<p>Research, production and training.</p>	<p>Source of technical information, seed materials, consultation and training in certain cases.</p>	<p>National Governments, UNDP, FAO, Foundations, AID, etc.</p>

INTERNATIONAL RICE RESEARCH NETWORK

AID Support

TA/AGR Supporting Projects

Research

1. Tailoring Fertilizers for Rice, Tennessee Valley Authority
2. Agricultural Equipment Development, International Rice Research Institute
3. Agronomic-Economic Research on Tropical Soils, North Carolina State University
4. Control of Weeds, Oregon State University

General Technical Services

1. Budget Support to IRRI
2. Pest Management and Related Environmental Protection, University of California
3. Fertilizers, Technical Assistance, Survey, Training and Consultation, Tennessee Valley Authority
4. Seed Program and Industry Development, Mississippi State University
5. Plant and Seed Materials for Development of Potential Crops in LDCs, USDA
6. Technical Assistance in Food Grain Drying, Storage, Handling and Transportation, Kansas State University

Regional Bureau Supporting Projects

Latin America

1. Budget Support to CIAT
2. Grant to the Castellar Graduate School (Argentina) for advanced training in agriculture, covering, among other subjects, crop improvement including rice
3. Soil Fertility Project, North Carolina State University (contract) -- provides cooperative research support to national programs working on fertility problems in rice and other crops in Latin America

INTERNATIONAL RICE RESEARCH NETWORK

AID Support

Africa Bureau

1. Budget support to IITA
2. Contribution to support of WARDA

Mission Level Support

Support is provided to strengthen country-level rice research programs and supporting activities such as training. Other activities supported at this level are international testing and seed exchange; cooperative production and/or research programs; and seminars and workshops combined with exchange of information.

MAILING ADDRESSES OF INSTITUTIONS MENTIONED

AID Agency for International Development
Department of State
Washington, D. C. 20523

CIAT Centro Internacional de Agricultura Tropical
International Center of Tropical Agriculture
Apartado Aereo 67-13
Cali, Colombia

CGIAR Consultative Group on International Agricultural Research
International Bank for Reconstruction and Development
1818 H Street, N. W.
Washington, D. C. 20433

FAO Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla
00100 Rome, Italy

FORD The Ford Foundation
320 East 43rd Street
New York, New York 10017

IDRC International Development Research Center
P. O. Box 8500
Ottawa, Canada K1G3H9

IITA International Institute of Tropical Agriculture
Oyo Road
P. M. B. 5320
Ibadan, Nigeria

MAILING ADDRESSES OF INSTITUTIONS MENTIONED

11

IRAT Institute for Agronomic Research in the Tropics
 110 Rue de l'Universite
 Paris 7e, France

IRRI International Rice Research Institute
 P. O.Box 583
 Manila, Philippines

ROCKEFELLER The Rockefeller Foundation
 111 West 50th Street
 New York, New York 10020

TA/AGR Office of Agriculture
 Technical Assistance Bureau
 Agency for International Development
 Department of State
 Washington, D. C. 20523

TVA Tennessee Valley Authority
 International Staff
 Muscle Shoals, Alabama 35660

USDA United States Department of Agriculture
 12th and Independence Avenue, S. W.
 Washington, D. C. 20250

WARDA West African Rice Development Association
 E. J. Roye Memorial Building
 P. O. Box 1019
 Monrovia, Liberia