Folder Title:	CGIAR: Bellagio Conference December 3-4, 1970 - Correspondence
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Dates:	12/01/1970 – 05/31/1971
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OCM "BELLAGIO" MEETINGS 1970-1971

Nov. 24, 1970; Dec 3-4, 1970; Dec. 16, 1970

DEPARTMENT OF STATE
REFERENCE SLIP

DATE 5/26/71

TO:	Name or Title	Organ. Symbol	Room No.	Bldg.	Initials	Date
1.	Mr. Ervin L. Peterson					
2.	Mr. Samuel H. Butterfield					
3.	Dr. Omer J. Kelley					
4.	Mr. Madison Broadnax					
5.						

	Approval		Initial for Clearance		Per Conversation
	As Requested		Necessary Action		Prepare Reply
	Comment		Note and Forward		See Me
	For Your Information		Note and Return		Signature

REMARKS OR ADDITIONAL ROUTING

FROM: (Name and Org. Symbol)	ROOM NO. & BLDG.	PHONE NO.
Milo L. Cox, TA/AGF	224 5	27927

FORM DS-10

FOR IMMEDIATE RELEASE

MAY 251971

1818 H STREET, N.W., WASHINGTON D.C. 20433 TELEPHONE: EXECUTIVE 3-6360

May 20, 1971

NEW INTERNATIONAL AGRICULTURAL RESEARCH GROUP FORMED

Washington, D.C. --- A new Consultative Group on International Agricultural Research has been established with the participation of 16 governments, 6 international and regional development organizations, 3 private foundations and the International Development Research Centre (IDRC). The purpose of the Consultative Group is to encourage a greater research effort aimed at assisting developing nations to increase and improve the quality of their agricultural output and thus to raise standards of living.

The Group's inaugural meeting was held here Wednesday, May 19, at the headquarters of the International Bank for Reconstruction and Development (World Bank).

The Group, sponsored jointly by the World Bank, the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Development Programme (UNDP), is unique in that it brings together not only governments and international institutions but also the Ford, Rockefeller and Kellogg Foundations, which have played pioneering roles in the whole area of international agricultural research, and the IDRC.

Members of the Group, in addition to the three co-sponsors, are: Canada, Denmark, France, the Federal Republic of Germany, Netherlands, Sweden, United Kingdom and the United States; the African Development Bank; the IDRC; and the Ford, Kellogg and Rockefeller Foundations. Also participating in the

meeting as observers were Australia, Belgium, Finland, Italy, Japan, New Zealand, Norway, Switzerland and the Asian and Inter-American Development Banks, some of whom indicated that they may join as members.

It was agreed that steps would be taken to add representatives of developing countries to the Group.

Discussions leading to formation of the Consultative Group were initiated several months ago because of a growing recognition that, despite the important advances of internationally supported research in raising yields of wheat, maize and rice, a much broader international and regional research effort is needed to reinforce national efforts in dealing with a wide range of agricultural problems.

The Consultative Group, after reviewing existing research activities, will explore major new areas of possible investigation, taking account not only of technical but also of ecological, economic and social factors. The Group's objectives include helping to synchronize national and international agricultural research efforts and encouraging full exchange of information among national, regional and international research centers; discussing the financial requirements for high-priority international and regional research activities, keeping in view the need for continuity of research over a long period; undertaking a continuing review of research priorities in the light of needs of the developing countries and suggesting feasibility studies on proposals to meet these needs.

A major action taken at the inaugural meeting of the Group was election of a Technical Advisory Committee (TAC) consisting of 12 distinguished scientists with wide experience in the agricultural problems of developing countries. Sir John Crawford, Vice-Chancellor of the Australian National

University, has been named Chairman of the Committee. A full list of the members is attached. The Committee will be responsible for advising the Consultative Group on the principal gaps in agricultural research and on the international and regional programs which deserve priority in filling those gaps. The Committee will be supplemented by advisers with special expertise who may be invited to serve individually or on panels to consider specific problems.

The Secretariat of the Consultative Group is being provided by the World Bank. FAO is providing the Secretariat of the Advisory Committee. The first meeting of the Advisory Committee is proposed to be held in Rome at the end of June. The next meeting of the Consultative Group will be held in Washington in early December.

Attachment

- 0 -

Members of the Technical Advisory Committee
on
International Agricultural Research

1. Sir John Crawford (Economist), Vice-Chancellor, Australian National University, Canberra. To serve as Chairman. - Australia

2. Ing. Manuel Elgueta (Agronomist), Ex-Director, Chilean Agricultural Research Institute; now working with IICA as Director of proposed Turrialba Research Corporation. - Chile

3. Prof. Dr. Hassan Ali El-Tobgy (Genetecist), Under-Secretary, Agriculture & Chairman, Research Committee. - U.A.R.

4. Prof. H. Fukuda (Irrigation Specialist), Vice President International Commission for Irrigation and Drainage, Tokyo University. - Japan

5. Dr. G. Harrar (Plant Pathologist), President, Rockefeller Foundation. - U.S.A.

6. Dr. D. Hopper (Economist), President, International Development Research Center. - Canada

7. Dr. Luis Marcano (Agronomist), President Shell Foundation. - Venezuela

8. Dr. T. Muriithi (Animal Health), Director, Veterinary Services. - Kenya

9. Dr. J. Pagot (Animal Production), Directeur General, Institut d'Elevage et de Medecine Veterinaire des Pays Tropicaux. - France

10. Dr. V. Pereira (Physicist), Director, East Malling Research Station, Kent (previously Director, Central African Research Organization). - U.K.

11. L. Sauger (Agronomist), Directeur, Centre de Recherche Agronomique du Bambey. - Senegal

12. Dr. M.S. Swaminathan (Genetecist), Director, Indian Agricultural Research Institute, New Delhi. - India

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

Dr Kelly

TO : Mr. Robert Wieczorowski

DATE: December 31, 1970

FROM : E. Jay Finkel

SUBJECT: IBRD/FAO/UNDP Meeting on Agricultural Research, January 14-15, 197

Mr. McNamara's memorandum to you of November 19, 1970, asked if the U. S. Government would be represented at the proposed meeting on January 14-15, 1971, and, if so, by whom.

I have consulted with appropriate agencies and request that you inform the Bank Management that the United States will be represented by the following delegation:

Head: Joel D. Bernstein, Assistant Administrator for Technical Assistance, Agency for International Development

Members: Ned D. Bayley, Director for Science and Education, Department of Agriculture

Alex Daspit, Director for Special Services, Bureau for Technical Assistance, Agency for International Development

Ernest F. Chase, Economist, Multilateral Institutions Program Office, Treasury Department

BELLAGIO GROUP MEETING

December 3-4, 1970

PARTICIPATING AGENCIES AND REPRESENTATIVES*

Canadian International Development Agency

Paul Gérin-Lajoie, President

Food and Agriculture Organization of the United Nations

Oris V. Wells, Deputy-Director General

The Ford Foundation

David Bell, Vice President
Lowell Hardin, Program Officer, Agriculture, International Division
F. F. Hill, Program Adviser, International Division

French Agencies

Guy Camus, Directeur Général
Office de la Recherche Scientifique et Téchnique Outre-Mer
Jean Pagot, Directeur Général
Institut d'Élevage et de Médicine Vétérinaire des Pays Tropicaux
Francis C. Bour, Directeur
Institut de Recherches Agronomiques Tropicales et des Cultures Vivrières (to be accompanied by his assistant, Mrs. Hirsch)

Inter-American Development Bank

Alfred C. Wolf, Program Adviser to the President

International Bank for Reconstruction and Development

Robert S. McNamara, President
Arie Kruithof, Development Services Department

(Japanese) Overseas Technical Cooperation Agencies

Heijiro Yoshihara, Director

The Rockefeller Foundation

J. G. Harrar, President
Sterling Wortman, Vice-President
John A. Pino, Director for Agricultural Sciences

Swedish International Development Authority

Anders Forsse, Deputy Director

* as of December 2, 1970

(United Kingdom) Ministry of Overseas Development

Sir Geoffrey Wilson, Secretary
Ralph Melville, Agricultural Adviser

United Nations Development Programme

Paul G. Hoffman, Administrator
Paul-Marc Henry, Assistant Administrator
Morris Huberman, Agricultural Production Programme Chief
Ralph Townley, Animal and Fish Resources Programme Chief

(United States) Agency for International Development

John A. Hannah, Administrator
Joel Bernstein, Assistant Administrator, Bureau for Technical Assistance
Omer Kelley, Director of Agriculture and Fisheries

. . . . . .

CONSULTANTS

Clarence C. Gray III, The Rockefeller Foundation
Ellis L. Hatt, Canadian International Development Research Centre
W. David Hopper, Canadian International Development Research Centre
Nathan Koffsky, Ford Foundation
John J. McKelvey, Jr., The Rockefeller Foundation
Lewis M. Roberts, The Rockefeller Foundation

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
Cable Address - INTBAFRAD

INTERNATIONAL DEVELOPMENT ASSOCIATION
Cable Address - INDEVAS

1818 H Street, N.W., Washington, D. C. 20433, U.S.A.
Area Code 202 • Telephone - EXecutive 3-6360

TO: All Delegates to the International Agricultural Research Meeting on January 14-15, 1971

FROM: Richard H. Demuth

In connection with the meeting on international agricultural research to be held on January 14 and 15 at World Bank headquarters, I take pleasure in sending you herewith the following documents:

(a) A Provisional List of Delegates as of December 30, 1970. An updated list will be available at the meeting.

(b) A Tentative Schedule for the discussions at the meeting, based on the Provisional Agenda previously circulated. This Tentative Schedule will, of course, be revised to reflect any changes in the Provisional Agenda agreed upon at the meeting and any other relevant decisions taken by the meeting.

(c) Papers prepared by the French and U.K. Governments describing the agricultural research activities supported by those countries for the benefit of the developing countries. These are background papers for Item 4 on the Provisional Agenda. Similar papers prepared by other governments will be available at the meeting.

The meeting will be held in the Board Room (A-1100) of the World Bank (1818 H Street, N.W., Washington, D.C.) starting at 9.30 a.m. on January 14.

If delegations desire to have prepared statements distributed during the meeting, it would be appreciated if a copy for reproduction could be made available to the Secretariat not later than January 12, 1971.

All delegates are invited for lunch in the Bank's Executive Dining Room on both days. There will be a special luncheon for heads of delegations on Friday, January 15, invitations for which will be issued at the meeting. A reception for all delegates will be given by Mr. J. Burke Knapp, Vice President of the Bank, on January 14 at 6 p.m.

Questions concerning the organization and administration of the meeting should be addressed to Mr. A. Kruithof, Development Services Department, International Bank for Reconstruction and Development, 1818 H Street, N.W., Washington, D.C. 20433.

December 30, 1970

December 31, 1970

PROPOSED INTERNATIONAL AGRICULTURAL RESEARCH MEETING

TENTATIVE LIST OF DELEGATES

1. African Development Bank (AfDB)

   Mr. E.A.R. El Saeed, Agronomist

2. Asian Development Bank (AsDB)

   S.C. Hsieh, Director, Projects Department

3. CANADIAN INTERNATIONAL DEVELOPMENT AGENCY (CIDA)

   Mr. Paul Gerin-La Joie, President
   Dr. Stepler, Agricultural Adviser

4. CANADIAN INTERNATIONAL RESEARCH DEVELOPMENT CENTER (CIDRC)

   Dr. W. David Hopper, President
   Mr. Hulse, Program Director

5. FOOD AND AGRICULTURE ORGANIZATION (FAO)

   Mr. P. Terver, Assistant Director General, Development Department
   Mr. P. Orassi, Assistant Director, Policy Advisory Bureau

6. FORD FOUNDATION

   Mr. David Bell, Vice President
   Mr. F.F. Hill, Program Adviser, International Division
   Mr. Lowell Hardin, Program Officer, Latin America Division

7. INTER-AMERICAN DEVELOPMENT BANK (IDB)

   Mr. Alfred C. Wolf, Program Adviser to the President

8. OECD

   Mr. Francis Wells, Chief of the Economic Development Division
   of the Development Directorate

9. ROCKEFELLER FOUNDATION

   Mr. George Harrar, President
   Mr. Sterling Wortman, Vice President
   Mr. John Pino, Agricultural Adviser

10. SWITZERLAND

    Mr. R. Lempen, Financial Counselor, Embassy of Switzerland, Washington, D.C.
    Mr. Charles Steinhauslin, Chief of Section, Swiss Technical Cooperation, Berne

11. U.K.

Mr. W.A.C. Mathieson, C.B., CMG, MBE, Deputy Secretary, ODA
Mr. R. Melville, Agricultural Adviser, ODA

12. UNDP

Mr. David Morse, Senior Consultant to the Administrator
Mr. Morris Huberman, Chief, Agricultural Production Program

13. U.S.

Mr. Joel Bernstein, Assistant Administrator, Bureau of Technical Assistance, AID
Mr. Alex Daspit, Director, Special Services Staff, AID
Mr. Omer F. Kelley, Director, Office of Agriculture and Fisheries, AID

TENTATIVE SCHEDULE
for
International Agricultural Research Meeting
on
January 14 - 15, 1971

Thursday, January 14, 1971

[Items 1 and 2 of Provisional Agenda.]

9.30 (a) Messages from President of IBRD and Administrator of UNDP
(b) Opening statement by Chairman
(c) Adoption of Agenda

10.00 - 13.00

[Item 3 of Provisional Agenda.]

(a) "Overview" by FAO representative on "Major weaknesses in present agricultural production and related research efforts in developing countries." (FAO paper will be distributed at meeting)

[Items 5 and 6 of Provisional Agenda.]

(b) Statement by representatives of Ford and Rockefeller Foundations on role of existing international agricultural research institutes supported by them and areas in which additional international research and training programs are needed. (Paper on international agricultural research institutes will be distributed at meeting)

[Items 3-6 of Provisional Agenda.]

(c) Statements by Heads of delegations and discussion of Items 3-6 of Provisional Agenda

13.00 - 14.30

All delegates invited to lunch in Bank's Executive Dining Room

14.30 - 17.30

(a) Continuation of morning discussions

[Item 7 of Provisional Agenda.]

(b) Discussion of need for establishment of possible International Agricultural Research Consultative Group or comparable mechanism, including its terms of reference, composition, organizational structure, financing and future procedures. (Background paper: Bank/FAO staff memorandum of November 17, 1970, Annex 4 to Provisional Agenda)

18.00 Reception by Mr. J. Burke Knapp, Vice President, IBRD

Friday, January 15, 1971

9.30 - 13.00

[Item 7 of Provisional Agenda.]

Continuation of discussions of Item 7

13.00 - 14.30

(a) Special luncheon for Heads of delegations in Dining Room B

(b) All other delegates invited to lunch in Bank's Executive Dining Room

14.30 - 17.30

[Items 8 and 9 of Provisional Agenda.]

(a) Discussion of future action and other matters mentioned in Item 8 of Provisional Agenda

(b) Discussion of possible Press Communique

(c) Other business

17.30

Closing

December 30, 1970

18 December 1970

UK BILATERAL AID TO AGRICULTURAL RESEARCH IN DEVELOPING COUNTRIES

The United Kingdom overseas aid programme has a substantial agricultural and veterinary research element. It comprises five identifiable components, namely, scientific institutions in the United Kingdom specialising in the problems of developing countries, financial support of agricultural research institutions in developing countries, project support, an advisory service, and the provision of experts under technical assistance.

Scientific institutions in the United Kingdom specialising exclusively in the agricultural problems of developing countries are four. First, the Tropical Products Institute, with the Tropical Stored Products Centre, specialises in post-harvest problems. It has a staff of 350 and costs £906,000 per year. Second, the Anti-Locust Research Centre in London which is the acknowledged leader internationally in this vital field; its assistance in research, in advice and the provision of its locust information service have been vital to those many developing countries afflicted by the locust menace. The cost of the Centre is about £254,000 annually. Thirdly, there are in England two scientific units working exclusively on pesticides research as applicable to tropical countries. The cost of these two units is £78,000 annually.

A second element in the United Kingdom agricultural research aid programme is that of the financial support of research institutions in developing countries. This element is largely the aftermath of the Colonial period and is now diminishing as the developing countries assume full responsibility for the funding of their own research institutions. Nevertheless, without this financial support, research in many newly-dependent countries would have been severely prejudiced. To demonstrate the scale of the United Kingdom's assistance in this sector it may be noted that in the current year financial assistance to the research institutions of the East African Community amounts to £446,000.

The third feature of the United Kingdom's aid to agricultural research in developing countries, and which is increasing as the budgetary support mentioned in the preceding paragraph diminishes, is that of project support. In the connected fields of agriculture, pesticides and anti-locust research, the United Kingdom currently provides some £777,000 deployed in nearly 100 projects, of which about one-half are being carried out in the United Kingdom and the remainder in developing countries. In nature they span the entire range of scientific agriculture. Crop husbandry, crop production, agricultural economics and marketing, meteorology and soil science are only examples of the wide range of work being done. In Ghana a team of seven British scientists is working at the Cocoa Research Institute. In Nigeria British scientists are working on the soil/sulphur relationship. In Kenya are large research projects on potatoes and pasture, while in Uganda at Makerere University, in combination with Cambridge University, work is being done on grain legumes. At Malta University the United Kingdom supports work on the destructive orobanche and in Jamaica on coconut tissue culture. These are merely examples.

The fourth element in the United Kingdom's aid to agricultural research in the developing countries is that of an advisory service. The Overseas Development Administration (ODA) in London has on its staff a number of internationally recognized experts in the agriculture of developing countries, including

veterinary and irrigation experts, and these are constantly engaged in consultancy and advisory visits. In addition ODA finances specialist posts at British research institutions specifically for overseas advisory work; these include experts in nematology, tropical soils, tropical tree crops, weeds, plant pathology, agricultural engineering, biometry and statistics. In addition to these specialists, ODA has access to the advice and collaboration of all the principal research institutions in the United Kingdom and calls frequently on their services to help developing countries.

The fifth element in the United Kingdom's assistance to agricultural research is in the provision of British scientists to work at overseas research institutions at no cost to the host country. Agricultural and veterinary research scientists furnished under various technical assistance agreements with developing countries have provided a significant element in their research effort.

The pattern of the United Kingdom's aid to agricultural research in developing countries is varied and is more the result of meeting needs as they arise rather than conforming to a planned programme. There is no particular regional bias, although for reasons of history the greater part of the United Kingdom's activity is directed towards the developing countries of Africa. In subject matter, as in regional distribution, problem-solving research, throughout the entire range of the developing world in the tropics, has resulted in a work-pattern spread over many subjects and disciplines. Nevertheless the United Kingdom currently makes preferences in its research work towards problems of regional rather than local significance and especially those tending towards high-protein food production. In selecting research projects, the criteria which ODA applies are first, that the work must be aimed toward the gathering of new knowledge and second, that it must relate directly to the needs of developing countries.

In addition to agricultural, pesticides, and anti-locust research work, the United Kingdom's ODA supports veterinary research projects in or on behalf of developing countries at a cost of some £170,000 annually, and has recently established at Edinburgh a centre for tropical veterinary medicine.

French Republic
Secretariat of State for Foreign Affairs
Bureau of Coordination and Control of
Assistance Agencies

Paris, October 14, 1970

MEMORANDUM

French Aid to Tropical Research

One form of French assistance to the developing countries, especially to the French-speaking African countries and Madagascar, of which the importance to the beneficiaries is not given sufficient emphasis, is the aid to scientific research provided by the agencies concerned with the tropics under the Secretariat of State for Foreign Affairs.

These agencies are the eight applied agricultural research institutes of the Groupement d'Etudes et de Recherches pour le Developpement de l'Agronomie Tropicale (GERDAT) (Study and Research Group for the Development of Tropical Agriculture) (see Annex I) and the Office de la Recherche Scientifique et Technique Outre-Mer (ORSTOM) (Office for Overseas Scientific and Technical Research).

In 1969 the eight applied research institutes had at their disposal F. 169 million. Of that amount F. 68 million was provided by appropriations from the budget of the Secretariat of State for Foreign Affairs (subsidies and agreements) and F. 54 million by budgetary credits from the fourteen African States and Madagascar (subsidies and agreements).

The ORSTOM budget for the same period was F. 95 million, of which F. 82 million was in the form of appropriations from the French budget.

These agencies together spent F. 264 million on tropical research and F. 150 million of that amount, provided out of the French budget, represented 0.02% of the gross national income of France.

The African States and Madagascar, for their part, spent approximately F. 59 million on research in 1969 (54 million for the applied research conducted by the institutes, 5 million for the basic research carried out by ORSTOM). This expenditure represented 0.3% of their gross national income.

This is an average which conceals the importance attached to research by certain countries (Ivory Coast, Senegal, Madagascar, Cameroon) that are aware of the essential contribution that research makes to their economic and social development.

The ratio of the expenditure of the applied research institutes on rural development in the African states and Madagascar (F. 158 million) to the active agricultural population of those states amounted, in 1969 to F. 21 per peasant family per year.

* * * *

In the preparatory work for the Sixth French Plan (1971-1975), the amount of funds to be devoted to tropical research during that period was programmed so as to ensure a considerable increase of French assistance in that field.

The general goals of tropical research were defined:

I. Applied Research The establishment of GERDAT, comprising the eight specialized research institutes, will make it possible to draw up more clearly an overall program for applied agricultural research and to coordinate the individual programs of each Institute.

The goal must be to ensure that there is a considerable and continuing improvement in the living standards of rapidly growing populations. This involves the development of all their agricultural and livestock resources, which are practically the only economic potential of these countries.

This development will have to be undertaken in the light of international market conditions and therefore of competitive prices. Consequently, agricultural development must be placed on a scientific basis involving research and studies and methods and techniques that reconcile the interests of both producer and consumer.

Research activity will be strengthened through additional staff and increased funds, but even more by better coordination of the work of the GERDAT institutes. Through such coordination, it should be possible to formulate a common scientific policy for the development of tropical agriculture over a relatively long period, with the aim of achieving not merely an increase in certain lines of production but also a harmonious economic development of all activities in each State, with due regard for regional differences.

An attempt will be made to pool the resources of the eight institutions. These resources will be available to teams of expert research personnel ready to be sent at any time to tropical countries to activate programs, the content, methods and duration of which will be precisely determined after consultation with the most highly qualified specialists.

The priority to be given to inventories and to basic experimentation at each point will be determined by the status of research and economic development in the various regional groups.

In tropical forest countries, where research has been actively pursued, efforts will have to be directed at maintaining the existing scientific potential, forest resources and experimental sectors, improving conservation and marketing techniques, seeking new uses for products, exploring and developing new timber resources, introducing and developing stockraising and providing socioeconomic conditions that will permit effective exploitation of technical discoveries and progress in the light of the actual human needs and aspirations.

In Sahelian countries, hitherto more neglected, research should begin with basic inventories to ascertain growing conditions, especially for groundnuts, cereals and garden crops and conditions for livestock raising. Research should at the same time be undertaken in the socioeconomic field, in order to permit full-scale immediate application without delays and distortions, of the results of the agricultural surveys.

Technological research will be concerned chiefly with methods of preserving and canning produce and with the industrial utilization of fresh water and livestock (cattle and sheep).

II. As regards basic research, ORSTOM is responsible for undertaking and developing, outside the temperate zones, basic research on natural or manmade environments and on the rational utilization of the resources of the biosphere, especially animal and vegetable products.

With its overseas organization, ORSTOM can make continuing field studies of the physical, socioeconomic and human aspects of varied and extreme environments (tropical, subtropical and arid). A knowledge of these may open the way to further research and also fertilize and reanimate some scientific studies in a number of sectors.

ORSTOM is the mainspring of French scientific aid to the countries of the Third World.

It gathers the basic data on which rational use of the resources of these countries is founded and which cannot be obtained simply by transposing results obtained in France. Data is fed to the specialized applied research institutes and development corporations and also to the government departments of the countries that come within ORSTOM's geographic jurisdiction.

ORSTOM's three main goals under the Five Year Plan are:

1. To plan a rational use of resources, it is necessary to know exactly what resources are available, and what their quality, potential and rate of growth will be. The only way to obtain such information is through a program designed to inventory and survey resources (geophysics, geology, pedology, hydrology, oceanography and hydro-biology).

2. Natural resources are produced within functional wholes where living organisms and physical factors of the environment react on each other. In order to appraise the possibilities of using them and the pattern of their development when they are used, it is essential to study the structure and behavior of the natural environment (botany and plant biology, biology and improvement of useful plants, soil biology, phytopathology and applied zoology, agronomy...).

3. Man is part of the biosphere; he affects his environment and is affected by it and his behavior is closely bound up with his environment

He transforms his environment, but ultimately the latter must enable him to survive under optimum living conditions.

Human societies in the countries of the Third World present specific problems whose solution is vital to development. For these two reasons, ORSTOM continuously studies social, economic and human problems (nutrition and microbiology, parasitology and medical entomology, sociology and psychosociology, economics and demography).

Achievement of these fundamental goals of the French tropical scientific research agencies must make a decisive contribution to the economic and social development of the African states and Madagascar.

Annex No. 1

GROUPEMENT D'ETUDES ET DE RECHERCHES POUR

LE DEVELOPPEMENT DE L'AGRONOMIE TROPICALE

(G.E.R.D.A.T.)

Economics Group Governed by Ordinance of

September 23, 1967

5, Square Petrarque, Paris 16e

The agencies belonging to this group are:

Le Centre Technique Forestier Tropical (CTFT) (Tropical Forest Technical Center), a Government corporation with headquarters at 45 bis, avenue de la Belle Gabrielle, 94 Nogent sur Marne.

L'Institut d'Elevage et de Medecine Veterinaire des Pays Tropicaux - IEMVT (Institute of Livestock and Veterinary Medicine for Tropical Countries), a public establishment with headquarters at 10, rue Pierre Curie, 94 Maisons-Alfort.

L'Institut Francais de Recherches Fruitieres Outre-Mer - IFAC (French Institute for Overseas Fruit Research), an association under the Law of 1901, with headquarters at 16, rue du General Clergerie, Paris 16e.

L'Institut Francais du Cafe, du Cacao et autres plantes stimulantes - IFCC (French Institute for Coffee, Cacao and other stimulants), an association under the Law of 1901, with headquarters at 34, rue des Renaudes, Paris 17e.

L'Institut de Recherches Agronomiques Tropicales et des Cultures Vivieres - IRAT (Institute of Research on Tropical Agriculture and Garden Crops), an association under the Law of 1901, with headquarters at 45 bis, avenue de la Belle Gabrielle, 94 Nogent-sur-Marne.

L'Institut de Recherches sur le Caoutchouc en Afrique - IRCA (Institute for Rubber Research in Africa), an association under the Law of 1901, with headquarters at 42, rue Scheffer, Paris,16e.

L'Institut de Recherches du Coton et des Textiles Exotiques - IRCT (Institue for Research on Cotton and Exotic Textiles), an association under the Law of 1901, with headquarters at 34, rue des Renaudes, Paris,17e.

L'Institut de Recherches pour les Huiles et Oleagineux - IRHO (Institute for Research on Oils and Oleaginous Seeds), an association under the Law of 1901, with headquarters at 11, Square Petrarque, Paris, 16e.

Annex No. 2

ORSTOM BUDGET 1969

DISTRIBUTION OF EXPENDITURES AND RESEARCH PERSONNEL1/ BY SUBJECT

	Expenditure	Research Personnel
I. Environmental Factors:		
a) Land		
Geology, Geophysics, Pedology, Hydrology	F 37 million	197
Agronomy, Soil Biology	F 5 million	35
b) Ocean and Inland Waters		
Oceanography, Hydrobiology	F 17 million	86
II. Direct Factors of Production		
a) Vegetable Production		
Botany and Vegetable Biology; Biology and Improvement of Useful Plants; Phytopathology and Applied Zoology	F 13 million	101
III. Human Factors of Development		
a) Health		
Microbiology, Parasitology, Medical Entomology, Nutrition	F 6 million	45
b) Socioeconomic Factors	F 12 million	123
IV. Expenditures on Activities Associated with Research		
- Documentation - Teaching	F 5 million	---
TOTAL	F 95 million	587

1/ ORSTOM also has a staff of 310 technicians.

Annex No. 3

INSTITUTES OF APPLIED RESEARCH

Distribution of Staff by Goals and by Production in 1970

	Research and Technical Personnel
I. Increase of Food Production	
Rice (IRAT)	27
Other food crops (IRAT)	44
Animal genetics (IEMVT)	55
Animal pathology (IEMVT)	55
Fishing and fish nurseries	4
Total	185
II. Maintenance of the Balance of Nature to Ensure Continuity of Resources	
Forests and soils (CTFT)	35
III. Diversification and Quantitative and Qualitative Increase in Marketable Crops	
Groundnuts (IRHO)	16
Coconut (IRHO)	19
Oil palm (IRHO)	32
Tropical woods (CTFT)	28
Coffee (IFCC)	36
Cacao (IFCC)	30
Tea, cola (IFCC)	5
Natural rubber (IRCA)	43
Cotton and other exotic textile fibers (IRCT)	89
Tropical fruit (IFAC)	130
Miscellaneous industrial crops (sugar-cane, tobacco) (IRAT)	19
Total	447
IV. Increase of Productivity of Various Types of Farms	
Improvement of physical environment (IRAT)	39
Farming systems (IRAT)	28
Agricultural mechanization (CEEMAT)	11
Total	78
Grand Total	745

BASES FOR EVALUATING THE ACTIVITIES OF THE APPLIED RESEARCH INSTITUTES AND SOME RESULTS ACHIEVED

1. Increase of Yields and Production

Cotton. Through the research conducted by IRCT and the close ties between this institute and the development corporations, average yields on peasant farms have risen in recent years from 250 kg to 400 kg per ha under traditional methods and from 1,000 kg to 1,500 kg under improved farming methods.

Under very intensive cultivation yields of 2,500 kg to 3,000 kg per ha have been obtained. The total production of the cottongrowing States of French-speaking Tropical Africa amounted to 450,000 tons of seed cotton in 1968/1969 as compared to 240,000 tons in 1963/1964.

Cacao. The IFCC has made remarkable progress in selecting seeds and improving techniques of cultivation.

The species traditionally grown yielded about 300 kg per ha. Improvement of cultivation techniques may make it possible to obtain yields of the order of one ton.

The selected varieties now being disseminated should make it possible to obtain 2 to 3 tons per hectare.

Total cacao production in the countries concerned amounted to about 270,000 tons in 1968/1969 as compared with 200,000 tons in 1963/1964.

Oil Palm and Coconut. IRHO research has resulted in oil palm yields of 3 tons of oil per hectare. With the dwarf hybrid coconut trees 2 tons of copra can be producted from the age of 6 years and 3 tons or more from

the seventh year onward.

Rice. IRAT's achievements were particularly spectacular in Madagascar where, for example, in the prefecture of Tananarive, as a result of the use of improved ricegrowing methods more than 65,000 farmers produced yields of over 50 quintals per hectare.

2. Examples of Technical and Human Improvements

The activities of the Institutes are not confined to pure scientific research and the selection of seeds; they extend beyond that: through development corporations to the perfecting of better techniques of cultivation. In cotton, for example, in North Cameroon the area worked by plow has increased over a period of ten years, from 3,000 to 40,000 hectares, fertilized areas from 1,000 hectares to 36,000 hectares and areas treated with insecticides from 1,000 to 6,000 hectares.

In Mail over the same period, plowed areas have increased from 5,000 to 50,000 hectares and fertilized areas from 2,000 to 40,000 hectares.

Thousands of plows and carts have been sold to farmers who have thus been able to improve their farm techniques.

The experience elsewhere has been similar. The production increases sought for a given marketable product bring about a general improvement of the farms. All crops benefit from the new techniques introduced and the knowledge imparted to develop a single product.

Improvement of techniques cannot be achieved, however, without some preliminary training of manpower. Agricultural modernization thus sparks social and human change andhigher living standards in their turn accelerate its pace.

File w/ Bellagio

U.S. PROGRAMS IN SUPPORT OF AGRICULTURAL RESEARCH IN THE DEVELOPING COUNTRIES

(Material Prepared for possible use by the IBRD at the meeting called for January 14-15, 1971 to organize long-term support for international agricultural research.)

United States foreign assistance programs have for many years emphasized agricultural research. The importance of the subject has in fact been recognized in Federal legislation. The United States Congress directed the President, in presenting his proposals for foreign assistance in the fiscal year 1969, to "include recommendations for improving and establishing agricultural research and training facilities in tropical and sub-tropical regions of Latin America, Africa, and Asia."

The Agency for International Development, though it defines and finances the various projects undertaken in furtherance of these objectives, itself carries out only a small part of the work. The Agency normally employs the substantial resources of the Department of Agriculture, and other agencies of the Federal Government, several score Universities, and institutions of the private sector to operate these programs. Where there is a lack of trained personnel or institutional competence in the United States to perform specific research of priority importance, the Agency sometimes finances a program to create this competence in an appropriate institution.

In the mid 'fifties, United States assistance to agriculture in the developing countries began to concentrate on the broad, long-range problem of strengthening the institutions which serve the agricultural sector. It became clear that little would be accomplished by strengthening agricultural research and training institutions if the resources created in these institutions were not effectively used by ministries of agriculture, and of education, and planning commissions. It also became clear that improved research and training capabilities in the Universities could contribute little to development unless progress was also made with such problems as credit, marketing, land tenure and pricing policies. These considerations have shaped the United States program of research in support of agriculture in the developing countries. This program is briefly summarized below.

1. The building of institutional competence in the developing countries. Two major types of assistance fall under this heading:

a. The creation or strengthening of agricultural universities in the developing countries. Programs directed toward this objective were strongly influenced by the American experience with the land-grant Universities, which made an important contribution to agricultural development in the United States. A major effort, extending over more than fifteen years in some areas, has been made to help create in the developing countries similar institutions with integrated programs of training, research and extension. The United States has spent approximately $100 million supporting programs directed toward this objective. About 40 U.S. universities have been engaged to provide assistance to some 80 major research and educational institutions in 44 developing countries. The programs have varied in scope, duration and

achievement: some of the most successful have lasted over fifteen years and have assisted the indigenous institution achieve research capability of a high order. The Indian universities of Uttar Pradesh and the Punjab which together received nearly $10 million of United States assistance over a fifteen year period, can be cited as examples of successful efforts at institution building.

b. Helping to create or reorganize research institutions. Typically, the U.S. contribution in this area is to cooperate with representatives of the developing country in making a joint survey of existing facilities, programs, personnel, etc., and to recommend measures designed to obtain maximum results from available resources. Such joint surveys have been made in India, Pakistan, Malaysia and Indonesia. The Agency recently launched its most ambitious project in this area: a grant to the National Academy of Sciences to study the research resources and requirements of Africa, with a view to recommending an integrated plan to meet the needs of the entire continent in the most efficient and economic manner.

2. Training. Over the years, training has been provided in the United States to more than 5,000 agriculturalists of the developing countries, many at the post-graduate level. The U.S. program of building agricultural Universities in the developing countries has been based in large part on the conviction that the developing countries must ultimately assume responsibility for training their own agricultural scientists but it is recognized that the developed countries will have to continue to provide post graduate training for some time. The United States policy is committed to providing this

training on an expanded scale and moreover, is attempting to make it more relevant to the needs of students from the developing countries. An effort is now under way to develop a pilot curriculum and appropriate course material to meet the needs of students from the developing countries. A.I.D. intends to provide support to institutions which develop such material and offer the revised curriculum.

3. Technical advisors. Generally speaking, the direct involvement of the United States in the research programs of developing countries has been limited. However, during the massive campaigns to introduce and disseminate the high-yielding varieties of wheat and corn in 1967-68-69, A.I.D. personnel made an important contribution to the adaptive research efforts of many countries, assisting with testing programs to select the best of the imported seeds and to modify new plant types to local climates, diseases, and tastes.

The green revolution brought not only the promise of relief from hunger, but the creation of new social and economic problems. The emergence of these new problems emphasized the need for a broader range of research, and revealed the lack of adequately trained personnel in the developing countries, particularly of agricultural economists, to study socio-economic problems. In recognition of the increasing need of the developing countries for highly trained personnel to help with such studies, A.I.D. has developed a new arrangement for "talent sharing" with four American Universities distinguished in agricultural economics, under which members of their faculty will serve with A.I.D. on a rotating basis. Of the total of ten professional agricultural economists provided for under these arrangements, half are expected to serve at headquarters in Washington, and half in the field.

4. United States Research on Behalf of the Developing Countries. Individual A.I.D. country programs frequently include projects with a significant

research component, as, for example, assistance provided to adapt the new cereal varieties to individual country requirements. Generally speaking, projects of this type are ad hoc responses to specific local needs.

There is also a broad program of centrally funded research which reflects the Agency's conception of priority problems of general concern to a number of developing countries. This program was initiated in 1961, and has since been pursued with a measure of consistency; it is beginning to produce some significant results. Some 27 research projects in agriculture, costing $4,637,000 are now being financed by A.I.D. and conducted by agencies of the United States Government, and American Universities. These projects range from the highly specific, such as "laboratory and field testing of a newly developed foot and mouth disease vaccine" to the broadly general, such as "the impact of new agricultural technology on rural employment and income."

To simplify presentation, this central research program is discussed under two headings: field programs, and U.S.-based programs. In reality, the division is rather arbitrary, since those projects classified as field studies are directed in some measure from headquarters in the United States institution, while those classified as U.S.-based involve some field work, or, at a minimum, the use of material gathered in the developing countries. Nevertheless, a legitimate distinction can be made between those programs which operate mainly in the developing countries, and those conducted primarily in the United States.

a. Field Programs. The United States conducts numerous projects exclusively research in character, or with an important research component. A few examples will illustrate the nature and range of these projects. The

Agricultural Research Service of the Department of Agriculture has administered successful programs of hybrid corn and sorghum in East and West Africa, involving plant breeding, adaptive research, and production assistance, and done research on legumes in India and Iran. A.I.D. has financed projects as diverse as the development of simple equipment for rice production(by the International Rice Research Institute in the Philippines) and the control of vertebrate pests (by the Bureau of Sport Fisheries and Wild Life, Department of the Interior in the Philippines (rats), Mexico (bats) and the Sudan (birds)). American Universities, under A.I.D. contract have done research on seed production, soils analysis, water management and weed control in a number of Latin American countries. They are also studying a range of important policy problems, such as the effect of agricultural commodity prices on economic development in India, Pakistan and Thailand.

b. U.S.-based projects and programs. Of the 27 centrally-funded agricultural research projects now in progress, only about a fourth are based in the United States. About half of these deal with broad sectoral problems, such as agricultural sector planning models (by Michigan State University), analysis of demand prospects for agricultural exports, and analysis of factors associated with differences and changes in agricultural production, (both by the Economic Research Service of the Department of Agriculture.)

There are two important plant breeding programs aimed at increasing the protein quality of wheat (University of Nebraska) and sorghum (Purdue University.) Both of these Universities have established cooperative arrangements with a number of experiment stations in various parts of the world, and their work has taken on some of the aspects of the international institutes.

Purdue has been quite successful in improving both the yield and quality of sorghum vulgare, and its products have been distributed, tested, and adapted in many of the developing countries, where they are now in production. The success of this program suggests that the international research network might be significantly strengehened by a more deliberate effort to build on existing centers of excellence in the developed countries linking them with field stations in the same way that CIMMYT is linked with such stations in its nursery program for spring wheat.

Some of the basic research work performed by American Universities has served to undergird the production-oriented research of the international institutes. For example, the work on improving the protein quality of wheat by the University of Nebraska is contributing to CIMMYT's wheat program; and Purdue's development of Opaque 2 provided the base for the CIMMYT program on high protein corn now financed by UNDP. These important reinforcements of the international network have been largely the result of coincidence. These chance successes suggest that a planned program of cooperating between the international institutes and research institutes in the developed countries(perhaps financed by the national agency for foreign assistance) might yield even more substantial benefits.