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SECOND MEETING
JOINT COMMITTEE ON AGRICULTURAL RESEARCH
AND
DEVELOPMENT (JCARD)
January 24 - 25, 1983

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JOINT COMMITTEE ON AGRICULTURAL RESEARCH
and
DEVELOPMENT (JCARD)

of the

Board for International Food
and
Agricultural Development (BIFAD)

Second Meeting

Monday, January 24, 1983 -- 1:00 to 5:00
Tuesday, January 25, 1983 -- 9:00 to 3:00

Holiday Inn
Rosslyn, Virginia

Agenda

Monday, January 24

- 1:00 - 5:00 - Jack Robins, Chairing Session
- o Announcements, Comments: John G. Stovall
 - o Report of Executive Committee: Robins and Popenoe
 - Review Items Discussed
 - Actions Taken
 - Proposed Plan of Work for 1983
 - o International Agricultural Research Centers

Purpose: To review policy and programatic issues relating to IARCs and develop a plan for review and assessment.

 - Review of BIFAD's Charge to JCARD and the Issues
 - Report on Centers Week
 - Review Current AID Policy and Procedures
 - Hear from Panel Appointed to Conduct Policy Review and Propose Plan for Future Work
 - Develop Proposed Scope of Work
 - Discussion
 - o Agricultural Policy and Development: Ed Schuh

Objective: To discuss (1) the relevance of agricultural

Price policy

Food policy

Income policy

Trade & exchange policy

Credit policy

Adjustment policy

Science & Technology policy

Investment policy

policy in developing countries to their development; (2) agricultural policy as an area for research; (3) developing institutional capacity for policy analysis in developing countries and (4) possible ways in which JCARD could assist AID and the universities in incorporating the "policy variable" in programs and projects.

Tuesday, January 25

9:00 - 12:00 - Hugh Popenoe Chairing Session

o Matching University Resources to AID Needs: Problems and Prospects: Frederick Hutchinson

o Participant Training: C. Jean Weidemann
Objective: To review current efforts aimed at strengthening participant training

semblance of local set of conditions (res/ ext / farming)

Extension - Technology Transfer

Objective: To explore opportunities and innovative approaches to technology transfer in developing countries

- Review of Contemporary Thinking: Doug Caton

- Comments: Arthur Mosher

1:00 - 3:00 - Hugh Popenoe Chairman

o The Role of the Private Sector in Development

Panel Discussion

- Ralph Smuckler

- Fred Hutchinson

- Ed Schuh

o Priorities for Research and AID Strategy Papers

Objective: To provide an opportunity for JCARD to react to Agricultural Research Priorities Report and Strategy Papers

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TENTATIVE BIFAD MEETING DATES

February 18 (Friday)

March 31 (Thursday)

June 2 (Thursday)

July 22 (Friday)

September 29 (Thursday)

December 2 (Friday)

JCARD MEETING DATES

January 24 - 25

(Monday 24th, 1:00 p.m. thru Tuesday 25th, 5:00 p.m.)

March 17 - 18

(Thursday 17th, 9:00 a.m. thru Friday 18th, 12:00 noon)

May 16 - 17

(Monday 16th, 1:00 p.m. thru Tuesday 17th, 5:00 p.m.)

August 18 - 19

(Thursday 18th, 9:00 a.m. thru Friday 19th, 12:00 noon)

October 11 - 12

(Tuesday 11th, 1:00 p.m. thru Wednesday 12th, 5:00 p.m.)

November 30 - December 1

(Wednesday 30th, 1:00 p.m. thru Thursday 1st, 5:00 p.m.)

UNCERTIFIED MINUTES
OF THE
JOINT COMMITTEE ON AGRICULTURAL
RESEARCH AND DEVELOPMENT (JCARD)
NOVEMBER 30, - DECEMBER 1, 1982
HOLIDAY INN, ROSSLYN, VA.

D R A F T

November 30, 1982

Preliminaries

The meeting was called to order at 1:08 p.m. by Co-Chairman Hugh Popenoe (University of Florida). He announced that:

- o This session was the first quasi-official meeting since all of the JCARD nominees had not completed the official clearance process.
- o John S. Robins, S&T/FA, will serve as Co-Chairman representing the Agency for International Development.

Jay Morris, Deputy Administrator of AID gave words of welcome to the Committee. Morris said that since Administrator McPherson was a former member of BIFAD and having worked with the Administrator on various activities he too has an interest in BIFAD and in strengthening the universities involved in the Title XII activities. He will hope for positive results from the implementation of the new mechanisms such as the Joint

Career Corps, Memorandum of Understanding, etc. Although there is a struggle with the budget, the Administrator has a continuing interest in BIFAD and in building better communications between BIFAD and the Agency. They have the utmost confidence in Fred Hutchinson, Executive Director of BIFAD and the BIFAD Staff. He urged the members to call on the Administrator's Staff for any assistance that might be needed.

Background

Why a JCARD?

Fred Hutchinson, Executive Director of BIFAD staff recounted the background of JCARD. It was felt that two separate committees (JRC/JCAD) were no longer necessary since there was some overlapping in functions and the two separate committees were more expensive to operate. The committee needed restructuring to develop more jointness and effective operational activities in line with the revised BIFAD Charter and joint resolution signed by Chairman Wharton and Administrator McPherson in May of 1981. Hutchinson cited the two co-chairmen of JCARD as representing jointness, with one chairman from the university

community and the other from AID. He said the committee is not an entity in itself. The agenda for JCARD is constituted by BIFAD and the Agency. The Board is more involved in policy matters and the JCARD involved in operational matters. The Board has already developed somewhat of an agenda for JCARD relating to evaluation of the International Agricultural Research Centers program.

Hutchinson gave a breakdown of the BIFAD Staff citing the major responsibilities of each person. He noted that John Stovall, Chief of the Research Division, will serve as liaison person for JCARD. The other two divisions are Country Programs; and Institutional & Human Resources and an Operations section.

On review of JRC activities, Popenoe said JRC was created under legislation of Title XII to participate in the administration and development of collaborative (research) activities. The Committee has been involved in developing modes, concepts, procedures and guidelines for the Collaborative Research Support Programs (CRSPs). Because of JCAD's concern in site specific activities the problem of research can be more easily addressed with the two committees combined by offering closer

linkage between global and regional programs. Although JRC had joint work groups with some members of JCAD involving training and women in development activities (institution building factors) these were somewhat neglected and can now be properly addressed by the new joint committee.

JRC's charge to become involved with IARC's program falls under unfinished business--this will be fully addressed by the new committee. Collaboration (technical and financial) on research programs by AID and other donors will be given further consideration.

On Review of JCAD, John Robins stated that JCAD was created by legislation as an entity of BIFAD to assist in the implementation of bi-lateral activities (country programs). JCAD succeeded in fostering a better understanding of Title XII by host governments and missions personnel through various site visits and the U.S. university community received better understanding of AID's problems and programs which brought about a better working relationship in technical assistance activities. Workshops were organized to offer interaction/dialogue between universities personnel and AID

personnel. The collaborative assistance method of contracting was given greater use; and a renewed interest in institution-development activities was generated.

Both Popenoe and Robins agreed that though some accomplishments were achieved during the existence of JRC and JCAD; that the combining of the two committees offered a greater opportunity to address more efficiently the remaining and future issues and ensures the partnership role for a more productive effort in solving food problems of the LDCs.

In the discussion that followed, a number of questions were raised about the role of JCARD and the following points were made:

- o BIFAD focuses on Policy and JCARD on operational issues

- o JCARD is the subordinate to the BOARD but is also responsible to needs of AID

- o BIFAD is in the process of laying out a new agenda - this will impact on JCARD

- o Title XII provides the boundary for JCARD responsibilities
- o Federal members of JCARD serve by virtue of their position: non-federal members were selected for their individual competence and to represent the broad range of interests in the university community, but do not necessarily speak for any particular constituency groups
- o There is no specific budget for JCARD but support is included in BIFAD budget
- o Executive Committee will serve as a "Steering Committee"
- o The problem of how JCARD communicates with the university should be addressed.

Expectations for JCARD

On relationship of JCARD to Sector Councils, Robins said that Senior Assistant Administrator Brady for S&T, had established six S&T Councils: (1) Agriculture, (2) Nutrition, (3) Health, (4) Population, (5) Human Resources, and (6) Energy and Natural

Resources. Of greatest relevance to JCARD are the Agriculture, Nutrition and Human Resources Councils. Agriculture Sector Council is composed of reps. from the four regional Bureaus, PPC, BIFAD, with each S&T agency director responsible for the areas serving as Chairperson of the Council. Robins said the Council's charge is to provide an orderly mechanism for advising the Agency on all science and technology matters. This includes matters of policy, strategy, and program and project development.

The Sector Councils deal with matters of an internal nature to the agency such as personnel requirements, training, career development, and S&T priorities. He stated that JCARD looks at same matters but from an external viewpoint. The JCARD role consists of interfacing with the Agency and universities and other Title XII resources at the operating level. The Councils and JCARD serve as a mechanism or forum for addressing and resolving issues of mutual concern in the Agency/Title XII institutional relationship.

On expectations for JCARD from the University standpoint Popenoe said they look forward to successful implementation of

the new initiatives that have been developed such as the MOU, JCC, JEM, TSM, further look at the strengthening grant program and its relationship to the new initiatives; U.S. university linkage research with IARCs, ongoing program for new types of research; and priorities in terms of research; institution building, education and training (a continuing issue) MIC program, WID, Family/home, farming systems, standards of performance for evaluation of university contracts and greater participation of university and private sector.

Edward Schuh inquired if efforts had been made to mobilize public support for Foreign assistance and international research. Popenoe replied this was somewhat difficult to do within the Committee. The federal side of the Committee had to rely on guidelines of Executive Branch on budget matters. Relating to university side, access to the Hill offers some opportunity to redress the issue of public support.

Hutchinson stressed need to know what universities are doing to build support back home--international development arena not doing enough. Perhaps a workshop or dialogue with Land Grant college representatives on this issue could be considered.

Frederick Humphries stated that one could not look on JCARD as an independent Committee--it is an entity of the Board and the Committee can expect to receive agenda items from the Board and AID--on concerns of Title XII. The Committee itself is basically technical in operation ^{and} / deals with ways to treat problems in AID/University relationships and to enhance the Title XII concept from an operational standpoint--but does not become involved in setting the policy concept.

Allen Christensen considered training to be a prime item for the agenda and in relation to the budget, Committee should pursue making recommendation on reallocation of funds for training since this will have a major impact in carrying out AID's mission.

Ralph Smuckler inquired as to the extent of BIFAD's involvement in the CDSS review. J.Oweis replied that BIFAD staff is invited to sit in on the reviews but is selective and sensitive to countries where universities are involved. Does not have the staff or time to attend all reviews or to study and make input to them. Smuckler thought this was an important area where the committee could intervene and make an effective analysis. There

was a suggestion of using consultants for this kind of work because of limited staff.

David Schaer thought that JCARD should develop guidelines for deciding which projects should be Title XII and which should not.

Robins asked Hugh Dwelley to report on the Collaborative Assistance Mode of contracting and the Technical Services to Missions as they relate to ways of mobilizing university resources in AID program.

Dwelley stated that the Collaborative Assistance Mode of contracting allows for flexibility in providing technical assistance to the Missions. The University participates along with Mission/Host Country in the design phase as well as the implementation phase of the project. At the outset, all parties try to gain an understanding on anticipated needs of the contract. An agreement is reached on what the contractor will be allowed to do in initiating technical services, making administrative and logistical arrangements for personnel and procuring commodities. He referred to the "post design mobili-

zation" option included in project design phase that can be used for interim funding when there is a significant delay between design completion and implementation of project. It was noted that this method needed evaluation in considering its continuing use.

James Johnston, called attention to the report of the JRC Work Group on Alternative Models for Organizing Research which relates to the various modes for implementing research projects. Perhaps this report should be further pursued.

On Technical Services to Missions, Dwelley said that when team visits were made to the Missions to explain/promote Title XII they were frequently told by Mission Directors that low usage of university services was partly due to lack of convenient instruments for contracting short term services. In 1980 JCAD recommended a Title XII initiative to encourage Missions to enter order-type contract arrangements with a Title XII University for technical support to mission (TSM). In addition to providing short term aid to Missions and tapping strengthened resources of universities, TSMs promote an ongoing long term relationship between a university with a particular

interest and competence in a country and the AID Mission working in that country. In 1981, TSMS were awarded to Texas A&M for work with USAID/Dominican Republic and the University of Florida to work with USAID/Costa Rica--these have proven to be satisfactory operations. Recently TSMS have been awarded to MIAC for services to REDSO/East Africa and to MUCIA to work with RDO/Barbados. Current policy is to limit a university to one TSM.

MEETING ADJOURNED AT 5:05 P.M.

December 1, 1982

Co-Chairman Popenoe called the meeting to order at 9:10 p.m. AID Policy Papers on: Food and Agriculture Development, Nutrition, and Private Enterprise Development; BIFAD Briefs, November-December 1982 with Title XII Policy Directive attached, and copies of agenda for the December 2, BIFAD meeting were distributed to the members.

Operational Matters

Popenoe called attention to Schedule of Tentative Dates for JCARD meetings. After some discussion on preferences for early

weekdays (Mon. Tues.) versus late week days (Thurs. Fri.). (The meetings will be for 1 full day plus 1/2 day). The majority preferred the early weekday meetings. Firebaugh suggested alternating the dates during the meeting year with some meetings beginning early week and others beginning late week. It was agreed that starting time for the meetings would be 9:00 a.m. and (1:00 p.m.) for those sessions starting in the afternoon. Most members preferred to meet in Rosslyn.

Popenoe said an Executive Committee would be created as called for in the Charter and this Committee would need to meet more often than the full JCARD. Members of the Executive Committee were announced by the two Co-Chairmen:

John Robins, AID;

Hugh Popenoe, University of Florida;

Richard Cobb, Near East Bureau/AID;

Francille Firebaugh, Ohio State University;

James Johnston, Rockefeller Foundation; and

Fred Hutchinson, Executive Director of BIFAD Staff

will serve in an ex officio capacity. Also, Expert Panels or a task force will be appointed in the future to address various issues. The composition of these panels will be determined by evolving needs of the Committee.

John Rothberg stated that BIFAD Staff will provide professional and secretarial support to JCARD. It is expected that most Expert Panels will meet needs of one or more AID Bureaus, and that those Bureaus will agree when the panel is established to provide necessary staff support. Also, when appropriate, other Federal agencies and universities may be requested to provide support.

Stovall said that (according to the Charter) annually, in consultation with the Board and AID Staff, JCARD will develop a comprehensive work plan responsive to current and projected needs of BIFAD, AID and Title XII institutions. Agenda for regular meetings and special meetings will draw on this work plan. Popenoe said the Executive Committee will draft a work plan and send copies to members of the Committee for refinement and approval by the next JCARD meeting date.

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Robins introduced Board Member Dr. E.T. York to the Committee members. Dr. York said he was glad the group is functioning after a long gestation period. He is impressed with caliber of membership and thanked them for their willingness to serve. JCARD has an important function to perform and he looks forward to working with the Committee.

International Agricultural Research Centers: A.I.D. Policy, Funding, Review, and JCARD Role

Robins noted that the Board had expressed concern regarding the IARCs' program and wanted this to be a priority consideration of JCARD. Among items of concern are the: (1) Formula Funding -- impact on other programs; (2) relationship of work of IARCs with various other research institutions; (3) relationship of work of IARCs to Mission needs; and (4) issues on involvement of BIFAD in the review process.

Robins introduced Dana Darymple of S&T/Agriculture who follows the IARC program in that office. Darymple said the Centers have an international focus and receives support from a number of donors. AID has an interest in the Consultative Group on

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International Agricultural Research (CGIAR) which was established in 1971 to support a research effort to improve agricultural production in the developing countries. This group is sponsored by the FAO, UNDP, World Bank, and comprises numerous countries, international and regional organizations and private foundations. The group supports 13 IARCs. The group is advised by a Technical Advisory Committee composed of scientists from industrial nations and the developing world. AID provides 25% of the core funding for IARCs. The U.S. ranks 10th among international donors.

In the review process, a commentary on each center's program and budget is prepared and submitted by the Directors at IARC week. Internal and external reviews are periodically done. A comprehensive review of CGIAR strategies, policies and procedures was conducted in 1981. Studies on a variety of subjects are also done by this group.

In noting JCARD's role Darymple stated that the CGIAR is a complex system. He thought JCARD should become familiar with the system by noting its many publications, including the Annual Reports, Highlight Reports, etc. and to get first-hand

experience at Centers whenever possible. Also, attending Centers Board Members meetings is important in order for AID/BIFAD to follow up on its influence, utilization of products of Centers, and how these fit into ongoing AID activities.

Relating to competition among donors, Hutchinson noted that the U.S. and World Bank are among the major donors to the core funding of the whole CGIAR system and urged "caution" in trying to change policy or improve system out of respect for the smaller donors. In the university community there is some competition between CRSP funds and funds for IARCs--he hopes that the Committee will ignore the competition but look at Centers in terms of research output.

Johnston noted that the Technical Advisory Committee has a significant role in the management of Centers and that good information on the effect of Centers system--its structure, productivity, and impact is needed and should be looked at from a constructive approach.

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Richard Cobb noted that national and international organizations are not coming together to look at AID priorities as a group. There is money allocated to agricultural research activities from each of the Bureaus. IARC priorities are different. Perhaps an exercise should be done showing AID's priorities and put against priorities of IARCs and the results made known to the Technical Advisory Committee.

Schuh noted that the U.S. was under-represented on the Centers Board but over-represented with Director-Generals, so U.S. influence would be looked at from different levels and the Committee needs to give attention to value of IARCs to U.S. research and look at level of investment versus feedback.

Smuckler thought there was a need for an Expert Panel to focus on the IARCs and to feed into the Committee. Such a panel could make a concerted effort to look into the budget, program, management and monitoring aspects of the Centers.

Robins agreed that a panel was needed to do an indepth study of the Centers and that it was important to have a representative from JCARD on panel to provide linkage and continuity. He hopes to appoint such a panel in January.

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In further discussions on New Ways to Mobilize University Resources for AID Programs; Len Yaeger (S&T) noted that because of the cutbacks in Agency personnel the resources of Title XII universities are needed at this point in time to assist the agency in carrying out its mission. He called attention to the various instruments/mechanisms developed by AID and BIFAD to further enhance the Title XII process; Memorandum of Understanding, Joint Enterprise Mode, Technical Services to Missions, and the Joint Career Corps. With the MOU, JEM, and TSM already in place the concentration is now on the JCC.

Yaeger stated that Adm. McPherson approved the document to establish the JCC in May of 1982. The FY-83 budget contains funding for 25 professional positions from universities to serve in new AID jobs with most of these being overseas positions. Ten Missions have been selected to initiate the Corp. He noted that a number of universities have expressed interest in this mechanism and that the JCC offers a great opportunity for some of those universities who have not participated in AID projects to do so because the JCC reaches out to individuals.

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Smuckler thought the JCC was a commendable initiative and that universities should develop a roster of interested individuals and make this roster available to the Mission Directors. These persons could gradually fit into the available positions.

It was agreed that it would take some time to get the JCC fully implemented but with cooperation from all concerned parties it could be a very effective program.

Jean Weidemann (BIFAD Staff) gave a general overview of the Strengthening Grant program relating to the matching and non-matching process and the eligibility criteria. On the requirement for non-matching participation the college or university has to show demonstrable capacity in teaching, research and extension activities in agricultural sciences and a willingness to commit itself institutionally to improve its ability to make an effective contribution to attainment of Title XII objectives.

When proposals for Strengthening Grants are received from the universities they are sent to a Peer Review Panel. This panel uses a form to evaluate proposals against four criteria

clusters: relevance to Title XII, Institutional commitment to International development, program, management and budget.

When the evaluations are received from the Review Panel, BIFAD staff notes comments of the reviewers, recommendations are made to the Board, and then forwarded to appropriate AID office for action. She noted that currently a proposal from University of New Hampshire is under review and that a proposal from Prairie View A&M University had been approved by the Panel and that it will be recommended to JCARD for necessary action.

Erven Long noted that because of budget problems funds for future Strengthening Grants will be reduced. Thus far, 55 Strengthening Grants have been awarded to various institutions.

Smuckler asked if all universities eligible for Strengthening Grants have access to the Registry of Institutional Resources (RIR). Ravnholt said that all of the eligible institutions had not submitted the RIR applications.

Hutchinson stated that the Board had expressed concern regarding the universities that had not submitted RIR applications. Although some universities access RIR who have not entered applications--perhaps some have not submitted because of the sensitivity of faculty information.

Schuh stated that filling ⁱⁿ the application form is a demanding job for the institution. After some general discussion it was noted that the RIR form should be looked at and perhaps revised.

Popenoe thought that the RIR was useful and an important activity and should be looked at from the standpoint of future direction and making it more useful.

On the Matching Process, Jiryis Oweis (BIFAD Staff) stated that in the process of selecting Title XII universities contractors the decisions are made by the Regional Bureaus. The Mission provides the Regional Bureau Project Committee with Project Identification Document (PID) describing nature of problem and technical assistance needed from the university. The universities are informed of actual and anticipated Title XII projects through publication of brief summaries of projects in

the BIFAD Briefs, copies of Congressional Presentations, and letters to Title XII officers. When responses are received from the universities they are reviewed by the Project Committee and evaluated on basis of selection criteria. The Project Committee requests from BIFAD Staff a source list of most qualified universities for the project and the universities are ranked and negotiations are made with the highest scoring university by AID's Contracting Office. (Site visits to university campuses are sometimes made and RIR also used in this process.)

Other AID/S&T Activities

On Priority Setting, Policy and Strategy Papers, Robins noted that the Sector Councils had been working on draft strategy papers, which flow from the policy papers on various components of the development program relating to agriculture, nutrition, and private sector. These draft strategy papers will be reviewed in the various AID offices as well as by outside expert reviewers. JCARD will have an opportunity to comment on them before finalizing.

Robins said the Administrator requested the Sector Councils to develop priorities in four areas : agriculture, bio medical work in health, population and fuelwood to guide the Agency in research activities that will aid in solving the development problems around the world.

On AID Participant Training, Ruth Zagorin (S&T Director for Human Resources) stated that at the request of the Administrator a strategy paper on Development Training in the Agency is being prepared. Even though there are budget constraints an increase in participant training is necessary to move ahead with the Agency's focus on institution building, human capital transfer, etc. Training is expensive and to obtain high quality training with less money being allocated for this purpose consideration has to be given to: the regional process where a group of countries that need same kind of things are brought together in one location; identifying who to train; the role of private sector in training process; the training element included in various projects; training programs at the missions; contributions of women in training program; and the loan versus grant for financing training. AID/W, Missions, and universities have a vital role in seeking more efficient training/^{and}a continuous dialogue is needed to be effective.

On the Proposed Cooperative Program between U.S. Research Institutions and the IARCs, Anson Bertrand, S&T/AGR, said that this proposal was prepared by BIFAD and transmitted to the Office of Agriculture a year ago. He said that progress on this proposal has been minimal--partly because of funding limitations. The proposal is now in a project paper stage and is being circulated through the Agency for approval. The program consists of linking a certain university with a particular Center to collaborate on a research project with the objective of further solving some of the major food problems of developing countries.

Summing UP--And Looking to the Future--Priorities of JCARD

Robins said a Work Plan and Agenda for the Year is needed for JCARD. The Ex. Com. and Staff will be drafting that plan between now and the next meeting. Our purpose here is to get the views of members about what that plan should include.

As a starting point for discussion Robins listed the various topics that had been suggested for JCARD action of any kind, and others were added to the list. A summary of those discussed were as follows:

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AID Exercises (priorities, strategies, budget)
International Centers Review
Contracting Modes (JRC)
RIR-Registry of Institutional Resources
Incentive Study
Strengthening Grants
Training Issues
Criteria for Title XII
Communication: JCARD - Universities
Public Understanding of Agricultural development/Foreign
Assistance
New AID/UNIVERSITY Instruments - CAM, TSM, JCC, MOU, Matching
Process
Evaluation of Title XII Programs
Consortia Study
Livestock (3 Studies)
CRSP Issues
Extension Report

After some general discussion relating to these topics and where to start at present time and what is most important, it was agreed that a broad set of categories should be adopted

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around which most activities of JCARD could be grouped.

The suggested broad categories were:

Development policies, strategies and programs

AID-University relations

Training

University processes for strengthening, etc.

Evaluation

Research Program needs, vehicles (CRSP, IARC)

It was noted that IARC issues were already on the agenda for the next meeting--January 24 and 25. Robins said the Executive Committee will meet on January 7 to consider formulating a Work Plan and this draft plan will be distributed to committee members for comments.

The meeting adjourned at 4:50 p.m.

JCARD MEETING

November 30, 1982

ATTENDANCE

<u>Name</u>	<u>Members</u>	<u>Affiliation</u>
Hugh Popenoe		University of Florida
Ralph Smuckler		Michigan State University
Allen C. Christensen		California State Poly. Univ.
Jean R. Kearns		University of Arizona
Frederick Humphries		Tennessee State University
G. Edward Schuh		University of Minnesota
Rodney Foil		Mississippi State University
James Johnston		Rockefeller Foundation
John S. Robins		AID/S&T Bureau, Food & Agric.
David Schaer		AID/Africa Bureau
Richard Cobb		AID/Near East Bureau
Albert (Scaff) Brown		AID/LAC Bureau
Edward Williams (For	allen Hankins)	AID/Asia Bureau
Richard Parry		USDA/OICD
Robert Wildman		NOAA
Douglas Caton		AID/PPC
Hugh Dwelley		AID/SER/CM

Others

Alice Skelsey	Consultant
Yvonne Williams	Tuskegee Institute
James Cowan	NASULGC
Margaret Fahs	NASULGC
Fred Olson	NOAA
John Yohe	AID/S&T
Anson Bertrand	AID/S&T

BIFAD STAFF

John Stovall
Frederick Hutchinson
William Fred Johnson
Jean Weidemann
Jiryis Oweis
John Rothberg
Marie Barnwell
Mary Lester
Michelle Rucker
Beth Ravnholt-Zipser

JCARD MEETING

December 1, 1982

ATTENDANCE

<u>Name</u>	<u>Members</u>	<u>Affiliation</u>
Hugh Popenoe		University of Florida
Ralph Smuckler		Michigan State University
Allen C. Christensen		California State Poly. Univ.
Jean R. Kearns		University of Arizona
Francille Firebaugh		Ohio State University
G. Edward Schuh		University of Minnesota
Rodney Foil		Mississippi State University
James Johnston		Rockefeller Foundation
John S. Robins		AID/S&T Bureau, Food & Agric.
Joe Hartman (for David Schaer)		AID/Africa Bureau
Richard Cobb		AID/Near East Bureau
Albert (Scaff) Brown		AID/LAC Bureau
Edward Williams (For Allen Hankins)		AID/Asia Bureau
Richard Parry		USDA/OICD
Robert Wildman		NOAA
Douglas Caton		AID/PPC
Hugh Dwelley		AID/SER/CM
	<u>Others</u>	
Morton Darwin		AID/SER/CM
Dr. Erven J. Long		AID/S&T
Dr. E. T. York		Board Member
Alice Skelsey		Consultant
Yvonne Williams		Tuskegee Institute
David O Hansen		Ohio State Univ.
Paul Van Buren		Ohio State Univ.
Fred Olson		NOAA
Curtis Barker		AID/S&T
Dana Darymple		AID/S&T
Richard L. Owens		AID/LAC
<u>BIFAD STAFF</u>		
John Stovall		
Frederick Hutchinson		
William Fred Johnson		
Jean Weidemann		
Jiryis Oweis		
John Rothberg		
Myron Smith		
Mary Lester		
Michelle Rucker		
Beth Ravnholt-Zipser		

JCARD is required by its charter to develop a comprehensive work plan which is responsive to current and projected needs of BIFAD, AID and Title XII institutions. This program of work is to be developed each year in consultation with the Board and the AID staff.

In response to that charge JCARD proposes a plan for 1983 based on its assessment of the priorities of the Title XII institutions, AID needs and the Boards's new agenda.

Background

At its first meeting November 30 - December 1, 1982 JCARD reviewed the major activities of its predecessor committees, the JRC and JCAD, and discussed the recommendations of those two committees for activities that should be carried on by the new committee. During this discussion we also considered the Board's discussion about items that should receive priority by JCARD and the views of individual members.

Following the first meeting of JCARD, the Agriculture Sector Council, which includes all but one of the AID members of JCARD, discussed and prioritized JCARD agenda items from the perspective of AID.

On January 7, 1983 the JCARD Executive Committee reviewed the various suggestions for activities and issues and had the benefit of the counsel of the Vice Chairman, Dr. E. T. York. He shared with the Executive Committee the main elements of new BIFAD agenda under development and emphasized the importance of the JCARD program of work being consistent with BIFAD's agenda.

In developing the program of work the Executive Committee felt it was important to consider the relationship between JCARD and the Ag Sector Council. The over-lapping membership offers a unique opportunity for these two bodies to work together in furtherance of the overall purpose of JCARD.

The Executive Committee was cognizant of the desires expressed by JCARD members that the plan adopted should provide maximum flexibility for the agenda of the new committee to evolve over time and to allow for changing priorities and emerging operational problems not foreseen at this time. Therefore, the assumption is that this plan provides only guidance and can be modified as appropriate.

The Proposed Plan

In laying out the plan we found it useful to build around a few broad categories of activities which taken together encompass the total

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scope of work for JCARD. We, therefore, propose five categories which can serve as a framework for planning and for assessing accomplishments. They also may be useful in establishing panels or sub-groups to divide up the work of JCARD.

The following are the five major categories of activities which we suggest as components of the JCARD program of work for 1983.

1. Development Policies and Strategies

We take it as our responsibility to review AID's development policies and strategies in light of overall foreign assistance objectives and to give both AID and the Board the benefit of our assessment of the appropriateness of the strategies and whether or not there are alternative approaches that should be considered. We will be reviewing the various AID policy and strategy papers relating to food and agriculture and making our comments known to AID and the Board. In the future we may want to review other documents such as regional bureau strategies or CDSSs.

2. Science and Technology Programs, Vehicles and Priorities

Science and technology is one of the principal means by which foreign assistance objectives can be achieved. AID

has undertaken a more vigorous effort to support the identification , transfer and adaptation of existing appropriate technologies as well as carrying out food and agriculture research and the application of improved technologies to improve food production and consumption in developing countries.

The membership of JCARD is uniquely structured with representation from AID and the university community to address a number of operational problems that relate to science and technology. It can help identify the most important contributions that science and technology can make toward removing the constraints to developing. It can suggest priorities for allocating the scarce resources in science and technology and it can assist in more fully utilizing the scientific expertise in U.S. universities and suggest ways and means whereby international agricultural research centers and other research activities can be better linked.

Our major activity planned for 1983 is a review of the international agriculture research centers. This review will include an assessment of AID's policy with respect to centers, how the work at the centers relate to other centrally-funded research and how the centers programs relate to

the needs of AID missions. We will also be giving attention to a process by which BIFAD can participate in center reviews in the future. A panel has been established to assist JCARD in carrying out this important assignment given to us by BIFAD and AID.

Another panel of JCARD will be charged with reviewing the Collaborative Research Support Program and making recommendations as to what role JCARD should play with respect to this program and the process by which it should do it.

Several JCARD members are involved in the AID research priority setting exercise in process. The full JCARD membership will be given an opportunity to review and comment on that report and to monitor any follow up to that report.

JCARD will also review the difficult problems involved in getting technology used or adopted and determine if we can assist AID and Title XII institutions in this area.

3. AID/university relationships

A major purpose of BIFAD, and consequently JCARD, is to assist AID and the university community in making a better match between AID needs and university resources. Although much progress has been made in recent years in developing new instruments and mechanisms for improving this matching process problems persist; and because it is a continuous process, constant attention is required. JCARD is uniquely structured, with representatives of

the university community and AID, to help solve some of these problems and we will endeavor to do so during 1983 in several areas.

We have asked one JCARD member to review the various problems associated with contracting and to recommend to the Executive Committee what if anything JCARD might do or say to make the system work better.

We have also identified "inadequate communications" between universities and AID as a constraint to better matching. We have asked a panel to review the various communication vehicles and to identify communication needs and information flows and recommend ways of improving them.

We are also asking a panel to develop a set of criteria for identifying Title XII projects and if adopted, these could lead to a more smoothly functioning relationship.

4. Training

The importance of education and training in the development process has long been recognized and the pay off from investment in training and education has been well documented. The AID Administrator has reemphaized the importance of participant training in bilateral assistance programs and the BIFAD analysis

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of the FY 1984 budget included a strong recommendation to increase the use of participant training in mission programs.

Title XII institutions have long been the mainstay to AID training programs and they have a legitimate interest in the implementation of AID policy with respect to participant training. Thus, JCARD with its membership composition is uniquely capable of assisting both the universities and AID in strengthening this program. JCARD should be able to address such questions as:

- who should be trained?
- where should training be given?
- what type of training should be given?
- what followup should be conducted with trainees?
- what are the alternative strategies for supporting training?
- What are the costs associated with training?
- how can management of training programs be improved?

During the year JCARD will be reviewing the various activities in AID and the universities aimed at improving participant training. Based on our assessment of those efforts a decision will be made as to what additional contribution we can make.

5. Title XII institutions - internal processes and issues

Title XII legislation recognized the necessity of developing and maintaining strong institutions with the capabilities to respond to AID's needs and the legislation provided for special programs to enhance that capability.

JCARD recognizes its responsibility to comment on the response capability of those Title XII institutions. We should be able to make recommendations to AID as to how they can best provide support that will enhance the institutional capability, we should be able to recognize weaknesses in the institutions and prescribe remedial action.

JCARD will be establishing a panel to review the Strengthening Grant Program with the aim of determining in what way JCARD might contribute to it. Based on that review a decision will be made as to what continuing involvement JCARD will have with the Strengthening Grant Program.

The Executive Committee of JCARD reviewed a study of Title XII financial and non-financial incentives with a great deal of interest. This study made a number of suggestions for removing disincentives and strengthening existing incentives. We recognize that steps are being taken by AID and the universities to overcome some of these problems and we will be watching closely these developments.

The Executive Committee has also reviewed the study on consortia which makes a number of recommendations for improving this organizational form as a vehicle for mobilizing the university resources. We will also be alert for opportunities for JCARD to make contributions in this area.

Finally, we will be giving attention to the question of how universities can better link with the private sector to take advantage of opportunities because of AID's emphasis on the private sector as a tool for development.

Resources

To a large extent JCARD progress toward this program of work during the coming year will be determined by the amount of resources that can be

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mobilized to support these efforts. Although Agency and university staff are generally willing and able to take time from busy schedules to work on these important problems, tight budgets limit the amount of travel and other expenses associated with such work. In addition, almost all of these activities require staff work that is timely and of a high quality.

At the present time JCARD is dependent on BIFAD to provide travel and consulting expenses and staff work. Although the Executive Director of BIFAD has indicated his willingness to respond to the needs of JCARD, no specific dollar amounts or time has been committed. It is clear however, that the program of work laid out for 1983 will require considerably more resources than currently available. Therefore the full implementation of this plan will be dependent on additional Staff and Budget.



BOARD FOR INTERNATIONAL FOOD AND AGRICULTURAL DEVELOPMENT
INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

Agency for International Development
Washington, D.C. 20523

January 21, 1983

MEMORANDUM

Dr. James E. Johnston, Rockefeller Foundation
Dr. G. Edward Schuh, University of Minnesota
Mr. Allen Hankins, AID/ASIA
Dr. Charles Hess, University of California - Davis

SUBJECT: JCARD Panel on International Centers

We are requesting that you serve on a panel to assist JCARD in its charge relative to the international agricultural research centers, with Dr. James E. Johnston serving as chairman. We know that each of you are heavily committed to other activities but we believe you are uniquely able to assist us in this important work and we appreciate your willingness to devote your time and energy.

The U.S. support of international agricultural research centers is a program within the scope of BIFAD and the Joint Committee on Agricultural Research and Development (JCARD) has been requested specifically to place this matter high on our agenda. Chairman Wharton at a recent BIFAD meeting, when formation of JCARD was discussed, listed four aspects of the international centers for JCARD attention:

- formula funding for centers
- the relationship between the work of the centers and the various centrally-funded research activities
- the relationship of the work at the centers to AID mission needs
- the involvement of BIFAD in the continuing reviews of the international centers

We believe our charge can best be carried out in two phases. The first phase is an examination of the policy issues involved from the U.S. Government point of view. These include funding and budgeting matters, AID's role in the Consultative Group and the criteria for making policy decisions.

The second phase would be a review of the work at the research centers in terms of:

- o relevance to AID needs
- o relationship to other research financed by AID

- o needs of developing countries
- o linkages with U.S. universities

Your charge is to complete the first phase (policy analysis) and develop a recommended plan and procedures for the second (reviewing the work of the centers). You may want to do both assignments concurrently or in sequence. In any event, we ask that you give priority to phase one.

As we go about this task it is important that we not impose additional review burdens on the agricultural research centers. They already devote a considerable amount of resources to programs reviews of various kinds and we do not want to duplicate those nor add to their burden. Hence, we urge that you fully explore opportunities for drawing on previous reviews, the experiences of people who have participated in those review activities, or tying to reviews that are in the planning stage.

We will be discussing the international center issue at the JCARD meeting the afternoon of January 24. We would ask that as many of you as can, on this short notice, meet on the morning of the 24th to discuss your charge then give JCARD the benefit of your preliminary discussions.

Again, we appreciate your serving on this important panel. We look forward to your report and recommendations.

John S. Robins
Co-Chairman

Hugh Popenoe
Co-Chairman

Draft No. 2

January 4, 1982

THE 25% QUESTION: AID FORMULA FUNDING OF THE CCIAR

Dana G. Dalrymple

CGIAR Staff
Office of Agriculture
Bureau for Science and Technology
U. S. Agency for International Development

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I. INTRODUCTION

Since 1972, the Agency for International Development has followed a policy of providing up to 25% of the total annual funding provided to the Consultative Group on International Agricultural Research (CGIAR). This policy has proven to be a fruitful one from the point of view of the CGIAR but has, from time to time, been the subject of some questioning within the agency. The concern has usually stemmed from concern with the relatively large amount of grant funding allocated for this purpose, and the relatively smaller amount of funding left for other research purposes within the budget of the Office of Agriculture. The establishment of Collaborative Research Support Programs (CRSPs), first funded in FY 1977, has sharpened this concern.

The general funding problem has recently been raised again by the Board for International Food and Agriculture Development (BIFAD) in its comments on the allocation of funds in AID's FY 1984 budget.^{1/} The matter of formula funding was one of several matters targeted for specific attention at the first meeting of BIFAD's Joint Committee on Agricultural Research and Development on December 1, 1982. In order to provide a background for the JCARD inquiry, it seemed appropriate to pull together such information as exists on the subject and to introduce some of the principal questions. The resulting paper is a blend of history, statistics, firsthand experience, and personal views. It is hardly a complete or finished product. But it is hoped that it will provide a springboard for further inquiry and thought.

Since the paper is in part built on my own experience with AID funding of the centers, it seemed desirable to have it checked by others who have also been involved in the process in the past. Accordingly, an earlier draft was sent to and reviewed by Guy Baird, Curtis Farrar, John Hannah, and Floyd Williams. It was also reviewed by Vernon Ruttan, who is also familiar with the subject but from a different perspective. Their comments and suggestions were of assistance in preparing a revised draft.

^{1/} "BIFAD Recommendations; Apportionment of Funds, Agency for International Development, Fiscal Year 1984 Annual Budget," June 1982, pp. 16-22.

II. BACKGROUND

The CGIAR was established in 1971 to provide funding for an emerging system of international agricultural research centers begun by the Rockefeller and Ford Foundations in the 1960's. CGIAR funding started in 1972.

A. Pre CGIAR Support

AID began financial support to the international agricultural research centers in 1969 with a contribution to CIMMYT. Support was extended to IRRI, IITA, and CIAT in 1970 and continued in 1971. The amounts involved, as I was able to compile them in the mid-1970's, are summarized in Table 1.2/

The first formal expression of AID support seems to have been provided in letters from William S. Gaud, then Administrator of AID, to several centers on January 17, 1969. In the case of IRRI, he indicated that the agency would consider a contribution of \$350,000 beginning in 1970, with subsequent increases up to \$750,000. A letter to CIMMYT mentioned the initial grant of \$425,000 for 1969 and plans for a grant of \$525,000 in 1970. In a March 13, 1970 letter to J. George Harrar, President of the Rockefeller Foundation, Administrator John Hannah indicated that AID would be prepared to become a full share participant to all four institutes in FY 1971.

A full-share contribution, as it had been outlined to Hannah in a letter from Harrar and David Bell dated February 27, 1970, was an annual contribution to each center up to \$750,000. This was the maximum amount each foundation was willing to provide. A budget provided in the Harrar-Bell letter listed prospective AID contributions in 1970 as follows: IRRI \$350,000; CIMMYT \$525,000; IITA \$320,000; and CIAT, \$275,000. The AID contributions would total \$1,470,000, about 21% of total expected contributions of \$7,000,000 (the two foundations would be providing about 67% of the total).

As it turned out, as suggested in Table 1, the total AID contribution in 1970 was slightly higher than noted in the Harrar-Bell letter. And it increased significantly in 1971 when it in total nearly attained a full-share basis (though the distribution by center differed). From 1969 to 1971, center contributions came out of regional bureau budgets.

Nothing seems to have been written during this period about a percentage share.

B. Origin of the Percentage Concept

The precise origins of the 25% concept are not entirely clear. Former Administrator Hannah recalls (telephone conversation, December 7, 1982) that he did discuss the concept widely with leaders of both political parties in 1970, when he was consulting with them on potential support for the CGIAR.

2/ Chandler has subsequently listed the initial core funding received from AID as follows: 1969, \$120,000; 1970, \$424,000; and 1971, \$872,000. He also reviews the background of AID funding. See Robert F. Chandler, Jr., An Adventure in Applied Science; A History of the International Rice Research Institute, IRRI, 1982, pp. 146, 149-151.

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Table 1

U.S. CONTRIBUTIONS TO INTERNATIONAL AGRICULTURAL
RESEARCH CENTERS, 1961-1971

	<u>IRRI</u>	<u>CIMMYT</u> - millions	<u>IITA</u> of dollars	<u>CIAT</u> -	<u>Total</u>
1969	-	0.425	-	-	0.425
1970	0.475	0.625	0.320	0.259	1.679
1971	1.000	0.769	0.535	0.680	2.984
<u>Total</u>	<u>1.475</u>	<u>1.819</u>	<u>0.855</u>	<u>0.939</u>	<u>5.088</u>

Source: World Food and Nutrition Study, Supporting Papers, Vol. V, 1977,
p. 104.

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There was a general notion that the U.S. contribution of 33 1/3% to the United Nations was too much. A U.S. input of 25% seemed reasonable and received agreement.^{3/}

On January 5, 1971, Administrator Hannah authorized the U.S. representative to a forthcoming meeting on the international research centers at the World Bank to make the following statement:

A.I.D. is prepared in principle to provide up to 25% of the additional capital and future operating costs of the existing institutes and the two new institutes proposed (up to a maximum total contribution of \$7 million in any one year), provided that the remaining 75% is forthcoming from other sources. Specific pledges would, of course, be for individual institutes subject to our review and approval of fully developed proposals for each and to the provision by the Congress of adequate funds.

The statement was delivered on January 14, 1971. A subsequent report indicated that "it was generally understood that the U.S. intent was to finance 1/4 of Center costs, if needed, subject to the stated caveats" (Attachment A to an Action Memorandum for the Administrator, July 24, 1972).

C. Initiation of the CGIAR

During the January 1971 meeting, the decision was made to establish the CGIAR. The first meeting of the CGIAR was held on May 19, 1971. The first International Centers Week meeting was held in New York October 5-8, 1971. Another CGIAR meeting was held in Washington December 3-4. During the December meeting, the AID representative confirmed AID's intention to move towards a 25% funding policy. The same was true during the International Centers Week held July 31-August 4, 1972. Proposed AID funding levels were drawn up on the basis of a 25% share. The policy has been employed ever since.

The outcome in terms of actual core contributions and proportion of total contributions is summarized in Table 2.4/ It will be noted that U.S. contributions were well below 25% for the first few years and that they did not approach 25% until 1978. This was principally because contributions from other donors proved adequate to meet approved budget levels without the full AID amount. In one early year, as I recall, the maximum amount budgeted by AID proved to be inadequate. The situation changed in 1978 when the full

^{3/} In the State Department Appropriations Act for FY 1973, passed on October 25, 1972, the Department was instructed to shift from a 33 1/3% to a 25% level for assessed contributions to the United Nations or affiliated agencies starting in 1974 (PL 92-544, 86 Stat 1109).

^{4/} In addition to core contributions, the U.S. and other donors also provide funding for special projects which generally relate to an individual country. In the case of AID, these funds are almost entirely provided by the regional bureaus and/or country missions. In 1982, nearly \$8 million was provided by AID for several projects (a special memo is available on this subject).

Table 2

U.S. CORE CONTRIBUTIONS TO THE CGIAR, 1972-1982

<u>Year</u>	<u>U.S.</u> <u>Contributions</u> - millions of dollars -	<u>Total</u> <u>Contributions</u> -	<u>U.S. Cont. as</u> <u>Prop. of Total</u> - percent -
1972	3.770	20.060	18.8
1973	5.390	24.955	21.6
1974	6.805	34.525	19.7
1975	10.755	47.545	22.6
1976	14.870	62.870	23.7
1977	18.140	77.225	23.5
1978	21.145	85.045	24.9
1979	24.800	99.487	24.9
1980	29.000	119.576	24.3
1981	35.000	130.904	26.7
1982	40.785	151.945	26.8
<u>Total</u>	<u>210,460</u>	<u>854,137</u>	<u>24.6</u>

Source: "Integrative Report," CGIAR Secretariat, September 1982, Annex 3.

amount was needed, and continued in this vein. We thought that the 1981 contribution would be at the 25% level when we made it, but subsequent changes in exchange rates reduced the value of other contributions and raised the U.S. proportion. The higher percentage contribution in 1982 was the result of a deliberate policy, approved by the Administrator, to help salvage some key programs in a period of most unfavorable exchange rates.

While the overall proportions were at the levels indicated, the proportions allocated to individual centers varied more widely over time. In recent years they have ranged from 20 to 30% for the centers which AID has funded - all but WARDA (AID has not provided central funds to WARDA since 1978, at first principally because of the availability of funds from other donors). Current criteria give heavy emphasis to merit and performance, but must also take age, location, mandate, and availability of other funding into account. This process does not utilize a formal formula.

D. Funding Practices of Other Donors

While there are a number of other donors - some 32 at present - they can be divided into two major groups: (1) the World Bank, and (2) all others.

The World Bank has, since the CGIAR was established, followed a policy of providing about 10% of total funding. In recent years this figure has been expressed as 10% of the total approved budget. Since the approved budget has exceeded funding, this has meant a slightly higher contribution, generally running between 10 and 11%. Recently there have been moves to raise the WB proportion; the 1983 contribution will likely range between 11 and 12%. The interim goal is to reach 12% and then perhaps go higher. This is, however, still just a proposal and has not yet received official sanction.

The World Bank has traditionally acted as donor of last resort - making up the difference between the budget levels approved by the CGIAR and funding available to individual centers. This is an extremely important function and indeed the system could hardly operate without it. Other donors, as we shall note, have specific centers they wish to support and this invariably leaves some others short funded. Also a wide variety of other forces - principally financial, such as inflation, devaluation, and exchange rates - can greatly influence the amount and value of funding available to individual centers. In trying to even out the available funding, the World Bank has followed a policy of more equitable distribution than might in some cases be utilized by AID, but this is not surprising given its role as donor of last resort.

The other 31 donors are composed of national organizations like AID, regional development banks and organizations, and international organizations. They pledge a specific amount each year and almost always indicate where they want it to go. A few have an informal percentage in mind - or at least are reported to have had one at some point - but this is principally an internal goal which is never mentioned in public. We do not know how important it is for them. The amount of their total contribution is probably determined largely by "supply" rather than "demand" factors. Furthermore, their allocation process is fairly inflexible, except perhaps for some new donors or for unallocated residuals of veteran donors.

Thus except for the World Bank, the funding practices of other donors are rather inflexible in the short run. There is no central pooling of funds. Greater flexibility in allocations is possible over the longer-run, and in fact is encouraged by the CGIAR system through a rather elaborate review procedure and periodic studies of priorities.

E. Allocation of Funding In Office of Agriculture

AID's contribution to the CGIAR, as well as to several other international research centers, represents a major portion of the budget of the Office of Agriculture. In general, there are three main institutional vehicles for conducting research and related activities: (1) the international agricultural research centers, (2) the Collaborative Research Support Program (CRSP), and (3) contract research, technical assistance, and other services. The relative role of these three activities in terms of the Office of Agriculture budget from FY 1974 to FY 1984 is indicated in Table 3 and Figure 1.5/

The IARC proportion has gone through three phases. The first was a sharp growth from 1974 to 1976. The proportion dropped in 1977 when there was a fairly substantial increase in overall office funding and then proceeded to rise through 1981. In 1982 it dropped, again when there was a notable increase in the overall Office budget. Preliminary estimates for 1983 and 1984 suggest increases but these may be modified somewhat if full matching funds do not materialize. Clearly the IARC's represent a major proportion of the Office budget and their relative importance tends to rise when the overall Office budget stagnates.

The CRSPs first appeared in 1977 and became a significant factor in 1978. Since 1979 they have averaged about the same proportion of the Office budget. The CRSPs are relatively comprehensive activities and have taken up some of the research formerly done under "other" research.

Other research and technical assistance activities dropped sharply in relative importance from 1977 to 1979 (when both the IARC's and CRSP's were increasing in relative importance), 6/ held at roughly the same level through 1983, and are scheduled to drop again in 1984. Within this category from 1982 to 1984, the technical assistance component will hold relatively steady, while the other research component will drop fairly sharply.

5/ The IARC figure is principally composed of the CGIAR, but also includes AVRDC and IFDC. The CGIAR figure is listed separately in Table 2; data for the other two are provided in footnote 1 to Table 3. Since 1981 the AVRDC allocations have been made on the same 25% basis as utilized for the CGIAR. The IFDC allocation has represented a straight-line figure since 1979.

6/ During this period some central programs were transferred to the regional bureaus. Also, as noted, some of these activities were taken up as part of CRSPs.

Table 3

ALLOCATION OF FUNDING, OFFICE OF AGRICULTURE
FY 1974 to FY 1984

<u>Fiscal Year</u>	<u>IARC's</u> ^{1/} - millions of dollars	<u>CRSP</u> ^{2/} - millions of dollars	<u>Other</u> ^{3/} (percent) -	<u>Total</u>
1974	7.7 (40.5)	0	11.3 (59.5)	19.0 (100)
1975	15.4 (51.3)	0	14.6 (48.7)	30.0 (100)
1976	20.6 (60.9)	0	13.2 (39.1)	33.8 (100)
1977	22.2 (45.8)	0.5 (1.0)	25.3 (53.2)	48.5 (100)
1978	25.5 (53.6)	5.3 (11.1)	16.8 (35.3)	47.6 (100)
1979	29.4 (58.3)	8.1 (16.1)	12.9 (25.6)	50.4 (100)
1980	33.5 (60.8)	7.6 (13.7)	14.1 (25.5)	55.3 (100)
1981	39.7 (65.2)	8.3 (13.6)	12.9 (21.2)	60.9 (100)
1982	45.6 (57.2)	15.7 (19.7)	18.4 (32.1)	79.7 (100)
1983 (prelim.)	48.9 (63.8) ^{4/}	8.4 (11.0)	19.3 (25.2)	76.6 (100)
1984 (prop.)	55.0 (65.1) ^{4/}	15.9 (18.8)	13.6 (16.1)	84.5 (100)

Notes:

1/ Principally CGIAR, but also indicates IFDC and AVRDC. The CGIAR figures have been reported separately in Table 2. The AVRDC allocation has been as follows: 1974, \$849,000; 1975, \$571,000; 1976 to 1980, \$600,000 yearly; 1982, \$800,000; 1983 (prelim.) \$850,000; and 1984 (prop.), \$1 million. The IFDC contributions have been: 1975, \$4.1 million; 1976, \$5.1 million; 1977, \$3.445 million; 1978, \$3.8 million; and 1979 to 1984, \$4.0 million.

2/ Excludes nutrition CRSP.

3/ Includes other centrally funded research and technical assistance.

Sources:

IARC's. CGIAR; Table 2. IFDC, AVRDC; Personal records.

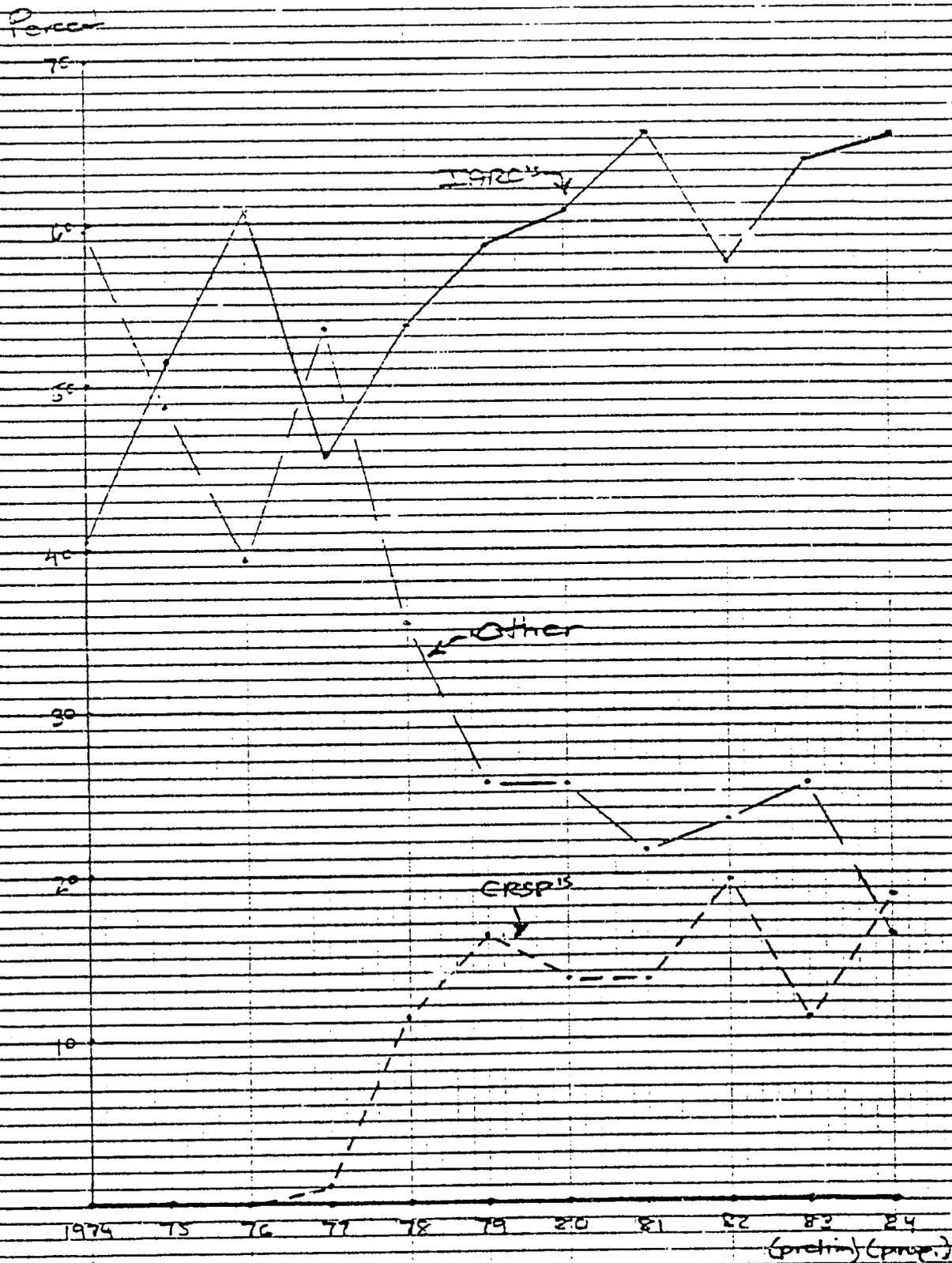
CRSP, Total. Tabulations prepared by Mary Mozynski, Office of Agriculture, September 30, 1981 (1974-1981), October 21, 1982 (1982-1984).

Other. Remainder after IARC's and CRSP's are subtracted from Total.

(Note: My records of IARC expenditures in the 1970's differ slightly from Mozynski's.) The data reported here also differ somewhat from those reported in "BIFAD Recommendations...", June 1982, p. 18, Table 2.)

Figure 1

ALLOCATION OF FUNDS: OFFICE OF AGRICULTURE
FY 1974 - FY 1984



Source: Table 3.

III. THE ISSUES

A number of key issues might be outlined as part of the 25% question. I have attempted to sort them out in terms of the setting within AID and to briefly outline the main advantage and disadvantages of the policy.

A. The Setting

Perception of the issues in the 25% funding issue depends in part where one stands and how broad a view is taken of the matter. If one stands way back, there are many much larger issues which need to be considered, such as the availability of resources for agriculture within AID, the division of these resources between various regional and central bureaus, the amount to be devoted to research in comparison to other activities, the division between bilateral and multilateral activities, etc.

Assessment of the payoff in terms of improving food production in developing nations would presumably play a major role in determining the allocation of resources to various uses, though other matters must also be considered. Unfortunately, little formal assessment of the return to the various lines of activity has yet been conducted.

Numerous agricultural research activities are sponsored by the regional bureaus and by the Bureau for Science and Technology. Generally the regional bureau activities differ in nature from the centrally-funded projects, yet they increasingly complement each other. National programs are increasingly able to draw on the products of the international agricultural research centers, and vice versa. As Dr. M. S. Swaminathan recently said of IR36, the most widely grown rice variety in the world: "There would have been no IR36 had there been no IRRI. Equally there would have been no IR36 had there not been a collaborative network of rice scientists working in different countries as members of a well-knit family" (Science, Nov. 26, 1982, p. 877). American agricultural research organizations are being involved through linkages with country programs, with CRSP's, and with ties to the international centers. An international agricultural research system is finally attaining reality.

Each part of the system is needed. Each is dependent on the other. Each must be reasonably well funded. And that is where the rub lies. Within the global community in recent years it has become more difficult to find funding for multilateral than for bilateral agricultural research activities. While the growth of the international system has slowed in real terms, the general perception is that external funding for national agricultural research systems in developing nations has been quite adequate. Somewhat the same situation would appear to exist within AID. Competition for research funding appears to have been particularly pronounced within the Office of Agriculture.

Opinions on how the resources of the Office of Agriculture should be allocated vary somewhat according to institutional clientele group. These might be said to be: (1) the regional bureaus and country missions; (2) the U.S. colleges, universities and related institutions (as represented by BIFAD); and (3) the ICARC's. Each has its own idea of what activity is most important in terms of funding priorities, and they are not necessarily the same. While all recognize the importance of a global system, when it comes to the crunch, assessments inevitably differ. Amelioration of these differences is not easy, and reconciliation is probably not possible.

The trends in funding for the three main components of activity within the Office of Agriculture were outlined in the previous section and depicted in Table 3 and Figure 1. The increase in the proportion of funds going to the IARC's has perhaps been less and more uneven than some might think (and than was suggested in the "BIFAD Recommendations...", June 1982, p. 18, Table 2). The CRSP's, after an initial growth, have tended to stabilize in proportionate terms. Other research, however, has dropped sharply. These trends have caused some concern, particularly on the part of BIFAD. The concern might in one sense be boiled down to the question of whether or not too much money is going to the IARC's as compared to the CRSP's and other activities in the Office of Agriculture.

To the extent that the answer to this question involves consideration of the comparative advantage and relative payoff to each type of research, it cannot be answered in the confines of this paper.^{7/} But this paper can examine some of the related issues, especially those concerning the mechanism which has been utilized for the CGIAR contributions - the 25% formula. This can be conveniently done in terms of the major advantages and disadvantages of the policy. In each case, it is useful to sort out the somewhat differing questions of (1) using a percentage formula or mechanism at all, and (2) the level of the percentage.^{8/}

B. Advantages of a 25% Policy

1. The Mechanism

- A percentage policy is conceptually simple. It can be easily explained and understood (though some of the mathematical implications, as noted in the Appendix, are a bit more complicated than might be expected).

- It is easily perceived by other donors as providing a solid base of support for the system. This is particularly true when the percentage contribution of the World Bank is also included.

- It provides consistency (assuming the level doesn't change), both over time and with respect to other donors. It is clear what the U.S. will do as a policy, even though the precise dollar amount may not be immediately clear. A constant balance is maintained with other donors. There is a built-in governor.

^{7/} Such an evaluation would not be a simple task - in part because of the differing ages and programs of the IARC's, the relative youth of the CRSP program, and the widely varied nature of the other research activities.

^{8/} One related issue which will not be examined here is the use of other types of formula funding for agricultural research. Federal funds have, for example, long been largely allocated to states on the basis of a formula. The essential difference in the federal/state case is that it is only the distribution of a given amount of funding which is determined by a formula; the total amount available is determined by the federal appropriations process (in the case of the CGIAR, it is just the other way around: the total amount is determined by a formula and the distribution between centers is determined by more general criteria).

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- The mechanism provides an incentive for other donors to increase their contributions. The more they give, the more the U.S. will give up to a certain fixed level. This is a rather powerful mechanism in mathematical terms, as is shown in the Appendix: a given percentage increase in the contribution by others would bring forth an equal percentage increase in the U.S. contribution. The actual dollar amount involved, of course, would vary with the level of the U.S. percentage. The extent to which the matching feature has influenced other donors is uncertain; their contributions are probably influenced by a variety of factors and the more important ones may be related to the internal supply of funds rather than external demand. Still, the mechanism could well influence decisions at the margin and could help induce new donors to join.

- A percentage mechanism is consistent with that used by the U.S. in determining its assessed contributions for other international organizations, particularly those in the United Nations system (recall fn. 3 on p. 4).

2. The Level

- A level of 25% has provided, in my judgement, an adequate level of resources to the system. The actual resulting dollar level, including contributions from other donors, has been sufficient to meet the needs of the system until the last year or so (when problems have arisen because of external financial forces, principally unfavorable exchange rates). No one, to my knowledge, has ever complained that the U.S. percentage is too low.

- The 25% level has not resulted in a particularly high contribution from the U.S. in per capita terms. In fact, the U.S. has normally ranked 10th out of 16 developed nations. It jumped to 9th in 1982, exchanging places with Germany (details are provided in Table 4).^{9/} Norway and Switzerland provided 2.5 times as much as the U.S. Of the 8 countries that exceeded the U.S. in 1982, 2 (Canada and Australia) had lower GNP's per capita; of those that ranked lower, only 2 (Germany and France) had higher GNP's per capita.^{10/}

- The 25% level is quite consistent with the overall level of U.S. contributions, both assessed and voluntary, to other international organizations. This is demonstrated in Table 5. Some individual groups rank higher; some are lower. But on average, the normal CGIAR proportion is right on the mark.

- The policy does not require us to give a full 25% if it is not needed. For many years, as noted previously in Table 2, we gave less than this amount because funding from other donors was adequate. This is unlikely to be the case in the near future, but could become a factor at some point.

^{9/} 1982 was unusual in two respects: (1) the U.S. contribution was unusually large in percentage terms; (2) the value of other pledges has fallen in dollar terms due to shifts in exchange rates.

^{10/} France contributes large sums to its own international agricultural research system (GERDAT, ORSTROM). It is attempting to raise the CGIAR contribution by 30% a year; this is a high percentage but applies to a rather low base.

Table 4

PER CAPITA CONTRIBUTIONS TO THE CGIAR, 1982

<u>Rank</u>	<u>Country</u>	<u>1982 CGIAR Contribution^{1/}</u>		<u>Index of GNP</u>
		<u>Per Capita^{2/}</u> - cents -	<u>Index</u> - U.S. = 1.00 -	<u>Per Capita^{3/}</u>
1	Norway	45.9	2.56	1.11
2	Switzerland	45.2	2.53	1.45
3	Canada ^{4/}	40.6	2.27	0.89
4	Sweden	40.0	2.23	1.19
5	Belgium	28.2	1.58	1.07
6	Australia	27.8	1.55	0.86
7	Netherlands	24.4	1.36	1.01
8	Denmark	20.6	1.15	1.14
9	United States	17.9	1.00	1.00
10	Germany	14.9	0.83	1.20
11	United Kingdom	12.1	0.68	0.70
12	Ireland	9.7	0.54	0.43
13	Japan	8.1	0.45	0.87
14	Italy	3.3	0.18	0.57
15	France	2.1	0.12	1.03
6	Mexico	1.43	0.08	0.18
17	Nigeria	1.42	0.08	0.09
18	Spain	1.34	0.07	0.48
19	Philippines	1.00	0.06	0.06
20	Brazil	0.84	0.05	0.18
21	India	0.07	0.004	0.02

1/ Contributions calculated on basis of November 1981 exchange rates

2/ Mid-1980 population

3/ 1980 GNP

4/ Includes IDRC; excluding IDRC the Canadian contribution drops to 35.8 cents and the national index declines to 2.00

Sources of data used in making calculations:

- CGIAR contribution. "1982 Integrative Report," CGIAR Secretariat, September 1982, Annex 3.

- Population and GNP per capita. World Development Report 1982, World Bank, pp. 110-111 (Table 1).

Table 5

U.S. CONTRIBUTIONS TO INTERNATIONAL ORGANIZATIONS, FY 1981

	<u>Total U.S. Contribution</u> - thousands of dollars -	<u>U.S. Cont. as Prop. of Total</u> - percent -
I. <u>Assessed Contributions</u>		
- United Nations	109.7	25.0
- World Health Organization	41.2	25.0
- Organization of American States	36.7	66.0 ^{1/}
- UNESCO	32.6	25.0
- FAO	25.4	25.0
- Other (58 organizations)	182.5 ^{2/}	
Subtotal, Assessed	428.1	26.53
II. <u>Voluntary Contributions</u>^{3/}		
- UN/FAO World Food Program	153.5	28.62
- UN High Commissioner for Refugees	138.7	
Regular Program	105.5	36.98
Special Program	33.2	23.07
- UN Development Program	125.8	18.69
- UN Relief and Works Agency	62.0	33.94
- UNICEF (regular program)	36.0	21.46
- CGIAR	35.0	25.29
- UN Fund for Population Activities	32.0	26.34
- Other (37 organizations)	87.4 ^{2/}	
Subtotal, Voluntary	670.4	25.74
Total All Contributions	1,098.5	26.10

^{1/} The assessed budgets of 8 Inter-American organizations, of which OAS is one, totaled \$71.9 million, of which the U.S. contributed 64.43%. This category in turn raised the total assessed U.S. contributions above the roughly 25% it would have averaged otherwise.

^{2/} Includes funds for U.N. peacekeeping operations; \$50 million assessed and \$19 million voluntary.

^{3/} Except for \$19 million contribution to U.N. peacekeeping operations, all spent for special programs in support of economic development and humanitarian activities.

Source: United States Contributions to International Organizations, 30th Annual Report, Report to Congress for Fiscal Year 1981, U.S. Department of State (Bureau of International Organization Affairs), Department of State Publication 9276, September 1982, pp. x-xiv.

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Disadvantages of the 25% Policy

The Mechanism

- There is a concern among other competitors for Office of Agriculture funds that the percentage mechanism, as it is operated, creates an "entitlement" process. They feel that the CGIAR contribution has become a relatively uncontrolled system that mechanically creams money off the top of the Office budget. My view is that both the CGIAR system and the AID contribution are subject to powerful budget controls. But to work the system does need to have reasonable assurance of AID funding up to the stated point. This has not been a problem in the past, but could become one if the Office budget were to be sharply cut after the AID pledge is made.

- There are several difficulties in implementing the mechanism. The principal one is to know early on just what the level of other contributions will be. The precise level of contributions to be expected by many donors is generally still uncertain by the start of the year. Moreover, the value of these pledges can be sharply influenced by financial forces (such as exchange rates) through the year. Over the last few years, we have responded to this situation by making our contribution in two tranches, one early in the year, and the other in late spring or summer. This creates some uncertainty as to the total amount needed for the CGIAR system until late in the fiscal year. Also, because of the long lead time involved, it is necessary to base our budget amount on forecasts of likely needs and funding, and these have not been very reliable. Because of the virtual impossibility of increasing funding later, it is necessary to budget on the high side; if less is needed, as has sometimes been the case, the extra funding been reprogramed into other Office of Agriculture activities.

- The system works well for the CGIAR centers when overall funding is expanding briskly, but not so well when funding is stagnant or declining. The incentive feature works well in the former situation, but becomes inoperative in a stagnant situation, and could become counterproductive in a period of declining funding (a drop in other donors contributions could lead to a drop in the level of our contributions). A percentage policy, therefore, doesn't provide a good means for breaking a difficult financial situation or providing a dynamic element in dark times. Since the centers view stability of funding as being of great importance, this is not a trivial matter.

2. The Level

- As suggested earlier, some observers are concerned that the 25% level for the CGIAR leaves too little room in the Office of Agriculture budget for other worthwhile research activities. If the total budget of the Office were higher, this problem would be alleviated; it is worsened when the total budget stagnates.^{11/} In the absence of adequate total budget increases, these

^{11/} The funds needed for CGIAR activities are determined by external factors and would not rise simply as the Office of Agriculture budget increases (unless they had been constrained by supply factors). Therefore the marginal value of an increase in funding is, under the current practice of taking the CGIAR off of the top, greater for the CRSP's and other research than for the CGIAR.

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individuals might like to see the CGIAR percentage lowered. The dangers in doing so have been noted. Moreover, the critical issue in making any such decision should be the expected marginal returns in the various forms of investment.

IV. POSSIBLE MODIFICATIONS

On balance, the 25% funding policy has some marked advantages and some disadvantages - both in terms of the mechanism and the level. Perception and weighting of the pros and cons are apt to vary depending on where one stands. In any case, the system is clearly not perfect and conceivably could be improved. What suggestions come to mind?

My thoughts are more oriented to the mechanism than the level. I think that the overall level of funding going to the CGIAR through the 25% system is appropriate, and I am primarily interested in improving the mechanism.

A. The Level

Still, the level is an important matter and should be considered. Conceivably one might raise or lower the actual percentage figure.

- Raising. I would not recommend raising the percentage as a general policy. The present level is consistent with general U.S. policy towards international organizations. It usually results in the transfer of an adequate level of funding at a quite reasonable cost in per capita terms to the U.S. And I wouldn't want the CGIAR to become more dependent on the U.S. than it is. The group needs to be a little on the hungry side and should be encouraged to continually look for new donors and to stimulate others to give more. The strength of the group is in broad and involved membership. There are special occasions, however, as occurred in 1982, when AID should be allowed to relax this policy and to intentionally go slightly above 25%. The system needs some degree of flexibility.

- Lowering. It is easy to suggest lowering the U.S. proportion, but it would have very grave consequences. The U.S. is the financial mainstay of the group. What we do is closely watched by the other donors. If we should show any slackening of financial support for the group, it would be interpreted as a drop in confidence. This would make it easier for other donors - who are also financially hard pressed - to reduce the rate of growth of their contributions. And it would automatically lead to a drop in the level of the World Bank contribution which is also calculated as a proportion of total contributions. The Bank, moreover, is in the process of trying to raise its percentage in order to improve the financial well-being of the system. It is not making this effort to allow us to drop back, and would doubtless be extremely disturbed if we did so. In fact any move in this direction by the U.S. could well cripple the proposal. The system, while it has worked well, is a very sensitive and fragile one. Psychology is very important. We need to judge our actions accordingly.

In short, I believe that the stated general policy of the U.S. with respect to level should be: no more, no less.

B. The Mechanism

My views on modifying the mechanism are rather mild and are in the direction of improving and fine tuning it. Some may wish to suggest more radical changes, but I will leave that to them.

One idea concerns an upper and lower dollar level. We traditionally state an upper dollar level, and this policy should be continued. It is essential to have a set figure for the budget process, and it is prudent to have a control on the dollar amount any given year. But we might also quietly set a lower dollar level for our contribution, irrespective of matching contributions. This policy could be needed in a year of declining contributions for the system (which hopefully will not occur). The level might be at the same real level as the previous year. This policy need not be announced until it is necessary to utilize it.

Another idea would be to try to be more explicit about the likely dollar level of our contribution at Centers Week, or shortly after, and to stick with that level. It is awkward for everyone involved to have us changing our likely level of contribution through the year. This didn't used to be quite such a problem, but has been brought on by the international financial problems of the last few years. In addition, this year some special projects are being considered for reclassification as core projects. The key problem with declaring one figure is, of course, that the amount or value (due to exchange rates) of other contributions will likely change, dropping us below or raising us above our declared percentage after the fact. Thus, in retrospect, our contribution might seem too high or low. But this happens anyway, despite our best efforts. It would seem more sensible to bite the bullet in say late November or December, and stick with it. Our allocation could, of course, still be made in two tranches.

In order to reduce the possibilities of going astray in the above calculations, it might be useful to continue to press the system and other donors to improve the system for predicting likely availability of funding. There may be limited prospects for improvement, largely because of constraints in national budget processes. And any improvements can be undone by exchange rate variations. But it seems worth a try.

It would also be helpful for the system if the U.S. could be more flexible in terms of allowing carryover of its funds. The way this is handled now is that if a center expects a carryover, it spends the U.S. funds and carries over others. It has been suggested that we might be able to get around this by writing our new grant documents before the end of the calendar year so that we can use the same document number. I will look into this.

In a different vein, it should be noted that BIFAD has suggested that AID "insulate the CRSP's and other centrally funded activities from direct competition (and associated budgetary erosion) with the formula funded commitment of core budget support of the IARC's" by (a) treating the IARC's as a separate budget line item and by increasing it "off the top", or by (b) increasing allocations to S&T by an "off the top" amount equal to the

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formula-based growth in the U.S. commitment to the IARC's. (BIFAD Recommendations, p.21). These are interesting ideas but I'm not sure that they are very realistic or would really change anything. Still, they might provide a starting point for the type of discussion which might be of greater interest to BIFAD than the points I have covered.

V. CONCLUDING REMARKS

The CGIAR is a key part of the international agricultural research network. It is an essential component to AID's efforts to increase agricultural production in developing countries. AID has provided adequate support for this system in the past and will need to continue to do so in the foreseeable future.

AID's policy has been to provide 25% of the total funding available to the system. I think that in general this is an appropriate policy and an appropriate contribution. Others, such as BIFAD, who are concerned with the substantial inroads this makes on the total budget of the Office of Agriculture, are more uneasy with the policy. They would like to see a greater degree of protection for the funding of projects while they are more intimately involved with.

The matter is - as I think they will discover - a complex and challenging one. There are no easy answers, especially if one is going to continue to behave responsibly toward the CGIAR and to face the realities of the AID budget process. In this context, the present system has much more to recommend it than may be generally recognized. Moreover it is difficult to come up with alternatives which would work as well. Still, this does not mean that the present system couldn't be improved. I believe that fine tuning of this nature will be the most productive course of action.

It should also be realized that many of the current concerns could be alleviated if funding for the Office of Agriculture were to grow at a more adequate rate. Consideration of ways of improving funding might prove an equally profitable course of action. Preoccupation with dividing up existing resources could lead to neglect of an equally or more important problem - the quantity of resources available.

VI. ANNEX

The Simple Mathematics of AID's Formula Funding

If AID's funding policy is to be referred to as formula funding, it should be possible to express it as a formula. We can. The contribution (a) is simply 25% of total funding (d), or

$$(1) a = .25 (d)$$

But how do we know what total funding is when it is partly determined by the level of our own contributions (a)? It might seem to involve circular reasoning. The answer, of course, is to base the calculation on the contributions of others. The two principal categories are:

- (b), the contribution of other donors excluding the World Bank
- (c), the contribution of the World Bank (WB)

If AID's contribution (a) is calculated as 25% of the total (d), it can be derived as follows from the independent variables:

$$(2) a = .3333 (b + c)$$

One complication is that the WB contribution (c) is also calculated as a percent of total contributions - formally 10% (but in reality a bit higher). Thus it, too, is really a dependent variable, in part determined by what AID contributes.^{1/}

The combined relationship may be demonstrated in the following hypothetical table:

(1) Variable	(2) Original Contribution	(3) Increase of 10%	New Contribution
	- millions of dollars -		
Dependent			
a. USAID	25.0	2.5	27.5
Independent			
b. Others (excl. WB)	65.0	6.5	71.5
c. World Bank	10.0	1.0	11.0
<hr/> d. Total	<hr/> 100.0	<hr/> 10.0	<hr/> 110.0

The AID contribution, calculated as suggested in equation (2) above, checks out in the case of the original contributions levels (col. 1):

$$a = .3333 (65 + 10)$$

$$a = .3333 (75)$$

$$a = 25$$

It also checks out in the case of an increment in contributions by others (col. 2) and as a proportion of the new total (col. 3).

^{1/} This means that the formal expression of the overall relationship is more complicated than presented here, but does not disturb the calculations that follow.

On this basis, an increase in contributions by the other donors (b) has the following less well known effects in absolute and percentage terms at the margin (col. 2):

- Absolute. An increase of \$6.5 million would theoretically bring forth an increase of \$2.5 million in AID funds and \$1.0 million in WB funds, for a total matching increase of \$3.5 million. The AID contribution (a) represents 38.462% of the other contribution (b), while the WB figure (c) represents 15.385%. Together (a + c), they represent 53.847% of the other contribution (b).^{2/}
- Percentage. An increase of 10% is associated with similar (10%) increases by both AID and the WB. This relationship, which may not be expected, seems to hold true at any level of contribution, as long as the AID and WB contributions are calculated as a proportion of the total.^{3/}

Thus the matching effects of an increase in contributions by other are considerable - much more so at the margin than may be commonly realized.

^{2/} These relationships also holds for columns (1) and (2).

^{3/} It may be suggested that this result is to be expected from the construction of col. 2. Yet the same result is obtained if the proportions noted in the previous paragraph are applied.

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PARTICIPANT TRAINING IN AGRICULTURE

by

James Collem, Reed Hartford, Doyle Matthews,
Malcolm Purvis, Handy Williamson and Larry Zuidema

Introduction

This paper is the product of two meetings of an ad hoc committee of six persons invited by AID to suggest some modestly scaled experiments that might lower costs and increase the effectiveness of participant training programs in agriculture.

It begins by observing that AID has underinvested in education and human resource development in recent years, and offers some explanations for this. The reasons for underinvestment need to be understood so that the key logs in the jam that has curtailed training programs in the past might be removed through appropriate action in the future. One such log is represented by the belief that others have been offering more support for training while the Agency has been offering less. Another reflects a confusion about the role of education in development; and a third has to do with AID's own management practices and policies, which unintentionally discourage investments in training. A final factor, external to the Agency, has been the rising costs of higher education in the U.S.

The following section of the paper then asks: Why should AID decide now to increase investments in training?

What should be the major objectives of such an investment program? While several are discussed, two new and fresh objectives are emphasized. First, we feel that AID's participant training programs in agriculture should become a constructive force for innovation and experimentation in the U.S. system of higher education. Second, we believe that, by more effectively leveraging with its scarce resources, AID could contribute to an expansion of funds available for higher education in the U.S. and the developing world.

The final section of the paper proposes six experiments and two studies which promise to contribute to the objectives we have suggested. Each study or experiment is also addressed to a major problem area identified in earlier sections of this paper.

The Underinvestment Problem

Training of agricultural educators and professionals around the world is considered one of AID's most constructive and lasting investments. Agency staff point with pride to the role of higher education in expanding leadership in the private and public sectors. And a consensus is growing that higher education has made very significant contributions as well in the areas of agricultural technology generation, dissemination, and use; rural incomes; and political and economic participation.

Contrasting with these judgments are data showing a downward drift in AID's investments in human capital development, and low levels of current investment. In the 1960's, the Agency spent annually about \$150 million in education and human resource development, with major emphasis being given the Asia Region. In the 1970's, this figure fell to \$80 million and has not changed appreciably in the 1980's, though Administrator McPherson has encouraged the Regional Bureaus to expand their budgets for training. The present flow of resources supports only about 750 degree and 750 non-degree participants annually in agriculture and related fields, with most coming from Africa and the Middle East. That these numbers are small can be appreciated when they are compared with estimates by the International Food Policy Research Institute of just the numbers of new agricultural researchers needed in developing regions during the 1980's: Asia, 91,000; the Middle East and Africa, 10,300; and Latin America and the Caribbean, 12,000. Even more surprising is that present plans of AID missions through 1984 do not promise to redress this neglect of training in agriculture. Only 13 mission projects to strengthen agricultural educational institutions and only six blanket training projects are on the drawing board.

Why is there this divergence between policy and actual spending for agricultural training? The explanations that

can be offered relate to factors operating inside and outside the agency.

Inside AID there are many staff who believe that, while the Agency has been doing less, others have been doing more. The facts here are not clear and deserve further investigation. Certainly such U.S.-based institutions as the Ford and Rockefeller Foundations, which led human capital development overseas all through the 1950's and 1960's, have been devoting smaller shares of their diminishing budgets to training in agriculture in the developing world. And while numbers of foreign students in agriculture in U.S. universities have increased through time, much of that increase may be attributed to a few countries with uncertain political and economic climates.

A second factor which has curtailed the Agency's investments is a confusion--perhaps even an ambivalence--about the role of education in development on the part of some staff. Because access to education is severely limited in many developing countries, it is argued that higher education only benefits the privileged few. Indeed, for some countries there is compelling evidence that family wealth and income are both a cause and a consequence of schooling. However, such evidence should not be taken to negate the benefits of education, but to suggest that attention be given to the access problem and to the kinds and levels of education provided.

A third set of factors relating to AID's management practices and policies may have resulted in a reduced investment in agricultural training. Such policies appear to reward the quick payoff, high dollar, easily managed projects. However, most educational enterprises are long-term, failing to yield quick returns. Further, training projects are usually not dollar-intensive, but highly labor-intensive. While, for example, \$10 million can be committed quickly to a few major items of physical capital expenditure in most any country, such a sum of money would require identifying 200 or more individuals for Ph.D.-level training, or about 300 for M.S.-level training. Not only would few developing countries have that number of qualified applicants, but AID staffing requirements for selection, in-country preparation, pre-arrival planning, language training and orientation would exceed the capacities of many missions around the world. This has become especially true with the demise of the "training officer," of which only two now remain in AID country missions. For these additional reasons, training projects have apparently become unattractive in practice.

The Agency should, of course, have found ways to draw on local sending institutions or U.S. universities to supply some of the missing administrative manpower. Because this was not done, AID's capacity to carefully monitor the

selection of even its diminishing flow of participants has been reduced as the size of its missions has been progressively diminished. It is reported that this has reduced the preparedness of participant trainees and consequently lengthened their periods of study in the U.S. This, in turn, has contributed to the rising costs of training programs. Methods urgently need to be found which will augment the Agency's reduced capacity to adequately backstop its participant trainees.

The mention of costs introduces the single factor operating outside the Agency which has probably most curtailed its investments in training, at least in the recent past. Degree training programs are generally considered "expensive" by AID staff, and interest in ways of cutting costs has been mounting. According to OIT, the average cost of an academic program has more than tripled since 1970 and more than doubled since 1975. The cost of a 1970 program was in the \$5,000 per year range. By 1975 this figure was between \$8,000 and \$8,500, and the average for 1981 was up to \$18,000 per year, with the average degree participant receiving an award at this rate for 2.6 years. Available data suggest that cost patterns for academic programs are as follow:

Instructional costs	298
Maintenance	45
Miscellaneous	12
Administration	<u>14</u>
	<u>1009</u>

Though comparable data for non-degree programs--averaging 1.5 months in duration and \$4,000 per month--are not available, it is believed that the share of total costs absorbed by maintenance and administration is higher than for academic programs, while the share absorbed by instructional and miscellaneous costs is somewhat lower. Over time there appears to be some evidence that these cost patterns for degree and non-degree programs have been reasonably constant and that there is little variation in them as between administrators, or programming agents, which do most of AID's business. All of this, of course, is consistent with allowances being set by AID through Handbook Ten, and competition among programming agents. Even agencies with contracts with host government institutions appear to have followed Handbook Ten, though they are not required to do so.

While these cost patterns and trends deserve to be carefully re-estimated and analyzed, they have already led to a conclusion that the length of time a program takes is a major determinant of cost. This fact is also probably the basis for an observed shift in recent years from degree

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to non-degree training programs. Also, the large share of costs absorbed by tuition has led to questions about opportunities for tuition waivers, out-of-state tuition waivers, or other forms of tuition relief. While perfectly legitimate questions, it is somewhat surprising that they are being asked. They tend to reinforce a general impression that AID has paid more of the total costs of training--including tuition costs--than other agencies because it has not effectively used its scarce resources to lever funds from other potential contributors. This impression, of course, deserves an early verification with available data.

That it may not have successfully levered funds from other sources is certainly consistent with the following two observations. First, by publishing allowances for full stipends in Handbook Ten, AID effectively has fixed uniform levels of allowances and announced its willingness to pay them. Under these circumstances, few alternative funding sources (say, a foundation), knowing that AID allows up to \$1,000 for Item "X", could be successfully approached to pay any part of the costs of "X". A sensible alternative, in the case of degree programs, would be for the Agency to simply state that the only allowances it will provide will be 12 months of maintenance support for M.S. training and 18 months for Ph.D. training, or roughly half

the total requirement. Second, AID's ability to lever funding has probably been reduced by contracting principally with one agency, CIICD/USDA, for the administration of trainees in agriculture. CIICD has correctly interpreted its function as spending AID's money wisely and in accordance with the guidelines of Handbook Ten. It has not been instructed to search for extramural funding, nor provided any incentive to do so. Were AID to more aggressively use its resources to lever funds from other sources, more than one programming agent should be engaged, all should become a "finder" of new funds, and finders fees should be paid to provide incentives.

In short, AID's training costs could be cut dramatically by substituting the full cradle-to-the-grave allowances of Handbook Ten for a single "minimum allowance" and by providing appropriate incentives to programming agents to find complementary sources of financing. Costs can, of course, also be reduced by tailoring training programs with that purpose in mind. Several suggestions along this line are made later in this paper.

Program Objectives

If AID is prepared to take actions to overcome its underinvestment in training in agriculture, what should

be the objectives of the renewed program? Stated in other terms, why should the Agency invest more in training at this time?

First, the old reasons are still perfectly valid--human capital is needed for public sector research and management, university and related institutional development, and for the greater participation of neglected groups. Further, AID should encourage development of the international dimensions of U.S. university programs. However, added to these old reasons today are three new dimensions to the problem. One is that up to 10,000 professionals are now being trained annually in Eastern Block Countries. This has created an urgent need to pluralize educational perspectives around the world. Another reason is that many individuals trained by AID in the 1950's and 1960's have taken positions where their social productivity is low. This is the "internal brain drain problem"--a product of people using their advanced training to gain positions with higher returns for themselves, but lower returns for society at large--and it has eroded significantly past investments in education in some developing country settings. The now well documented exit of young, well-trained agricultural researchers from Latin American national programs of agricultural research is just one example of this phenomenon. Finally, AID's priorities in

agriculture have shifted toward technology generation, diffusion and use; and this shift has significantly increased the demand in some countries for well trained manpower for research, extension, and national university development.

However, two additional, and as fully compelling, reasons for increasing investments in agricultural training for developing countries can be suggested. First, the U.S. educational system is entering a period of reflection, experimentation, and reform, following almost three decades of rapid, if not sometimes hectic, expansion. This is reinforced by the need for adjustments brought about by a secular shift in population growth rates and population patterns--away from the categories of youth towards older age--and a worldwide economic depression. USAID could become an important force for educational experimentation and reform inside the U.S. system through its support of participant trainees from outside. International agricultural training programs in U.S. universities could foster curriculum reform and innovation which might ultimately increase the attractiveness and effectiveness of degree and non-degree programs, and even reduce their costs and enhance their competitive positions worldwide.

Second, AID should choose to be more instrumental in the future than it has in the past in increasing the total value of resources committed to participant training. The allowances of Handbook Ten and related administrative mechanisms may have discouraged funding by other potential donors. An important objective for a renewed effort for training by AID would be to increase the size of the total resource pie and lever new monies inside and outside the U.S. for support of training in agriculture.

Proposals

This section of the paper outlines six experiments and two studies intended to clarify questions raised by the preceding discussion and to contribute to the objectives just suggested for AID's participant training programs in agriculture. The first proposal, which follows, is intended primarily to carefully quantify the costs of participant training programs.

Formally, the total costs of training a single participant, TC_p , are equal to the months required for training, t_p , times the average cost per month, c_p :

$$TC_p = t_p (c_p).$$

The time variable in this relation is an aggregate of the time spent in each of the principal phases of a training

program--the pre-training and preparatory phase, the course training phase, the dissertation phase, and the post-training phase. Also, each of these four phases has an average cost per unit of time associated with it, which may be more or less than the overall average cost per month, i.e.,

$$TC_p = t_{p1}c_{p1} + t_{p2}c_{p2} + t_{p3}c_{p3} + t_{p4}c_{p4}$$

Both the t's and the c's will vary by country of origin. Pre-training costs, for example, may be lower for well developed countries. The t's and c's also vary according to degree level. Four levels are considered here: non-degree, B.S., M.S., and Ph.D. (or equivalent). The t's will generally be larger the higher the degree level. And though some costs may be higher per unit of time for non-degree programs, there is an expectation that total costs will rise (perhaps not smoothly) from the non-degree to the B.S., M.S., and through to the Ph.D. level.

Time and unit costs will also vary by institution attended. There are some U.S. programs that have higher rates of student throughput than others. Yet they maintain that the quality and costs of their programs compare favorably with those of other institutions. The participants themselves will also have different t's (and maybe even c's) because of different backgrounds, experiences, prior training, and personal characteristics. Finally, the t's and c's are different for different mechanisms of administration and management.

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This discussion suggests that, other things equal, AID could reduce its total costs per participant by concentrating on countries whose participants have traditionally cost less, by moving to non-degree programs, by sending participants to institutions with high throughput, by taking care to send participants who are more likely to move rapidly through their programs, and by selecting mechanisms for administration which produce lower total costs.

It is understood that AID presently lacks the data and background analyses necessary to realize such economies. Therefore, it is recommended that a study be conducted which quantifies the impacts of country of origin, degree level, institution attended, participant characteristics, and administrative arrangements on the total costs of participant training programs in agriculture. It is estimated that the equivalent of three senior-level professionals would need a year to complete this study. Substantial cooperation from AID staff would also be needed. Costs of the study are estimated at \$250,000.

Simultaneously, AID might initiate a series of experiments around the world designed to reduce the existing values of the t's and c's. Most of the experiments discussed below are focussed on a single phase of the training process, though they may impact on other phases as well.

It first needs to be said that meaningful economies or better training can probably not be obtained through major reforms in curricula, leading to essentially a different array of degree offerings. Though the existing B.S., M.S., and Ph.D. degrees are by no means inviolate -- certainly the U.S. academic community has modified them substantially through time, it must be recognized that the demand for U.S. training is clearly articulated in terms of these degrees. This reflects the fact that pay scales in private and public sector institutions around the world are expressed in terms of B.S., M.S., and Ph.D. level training. Therefore, it would not be advisable to suggest radical changes in the present degree structure of U.S. institutions of higher education to accommodate particular developing country needs.

It needs to be noted, however, that opportunities for curriculum experimentation are essentially unbounded in the case of non-degree programs. For that reason, efforts to address concerns about the relevance of existing degree programs might be most profitably focussed on non-degree programs. AID appears to be making increased use of non-degree programs, which may reflect its assessment of the relevance of the existing degree structure for some developing countries.

These comments logically lead to a description of a first experiment recommended for AID's consideration.

This first suggestion would provide support for the equivalent of 150 short course participants to attend courses offered by the international agricultural research centers. It is suggested that this be done for a three year period, and that results be carefully evaluated by AID at the end of that term. The annual costs of this experiment, likely to be less than \$500,000, should not substitute in any way for AID's continued core support for the international agricultural research centers.

The main rationale for this suggestion is that the costs of participant training in most centers are low. However, not only can substantial savings be realized, but the relevance of the instruction for students from tropical countries is great. Many of the more mature international agricultural research centers have trained hundreds of short course participants since their establishment, and available assessments of the quality and relevance of the instruction are very positive.

Another important rationale for this recommendation is that the centers have had to sharply reduce their training efforts in the face of severe budget constraints. Training programs in some centers have fallen to a very low level.

The additional funding from AID proposed here would, therefore, be very timely and harness an important underutilized resource.

AID-supported short course efforts have generally not been designed to build capacities in developing countries that could provide such training locally. It is recommended, therefore, that \$1,000,000 of funding be provided for two to four years to a total of 150 participants who would attend short courses in the U.S. with the express purpose of replicating them in and adopting them to their home country settings. Some funding would have to be provided U.S. institutions so that their faculty members could help backstop and advise the design and conduct of short courses in developing countries. For this reason, the costs of the experiment would exceed those of training 150 short course participants. However, over the longer-haul, substantial savings would be realized as the locally sponsored short courses begin to satisfy demand. Short courses offered in a single country might also respond to a geographically wider (perhaps regional) demand and thus further reduce the costs of AID's non-degree training efforts.

An example of this proposal is already developing at Rutgers University. There a short course in vegetable production and marketing has been successfully offered for a



couple of years. The Panamanian government is proposing to send up to eight of its professionals to the next course so that a vegetable short course can be established for Central America and Panama. At that point, of course, Rutgers would assume only an advisory, backstopping role, though it may be a role of rather long-term duration.

Short courses can also be used to improve the effectiveness of the pre-training phase of a degree program, and attention should be given this possibility. As the number of AID staff in country missions diminishes, the important activities of the pre-training phase--selection of participants, assistance in choosing a suitable U.S., program, language and remedial training, etc.-- have been neglected with the overall result that subsequent program phases have been taking substantially more time and become more expensive.

Participants should be queried routinely after completing short courses about their plans for future training. This should be done by the institution providing the short course, and an assessment should then be made of participants' suitability for advanced degree-level training. Such practices are not currently followed.

In addition, however, it is proposed that AID experiment with a special kind of short course to strengthen and make more effective the pre-training phase of degree programs.

Three workshops by U.S. university faculty in each of the next three years in strategically located developing countries would be designed to serve the dual purpose of (a) identifying and selecting professional talent for overseas degree training and (b) furnishing the training, preparation, and eligibility of such individuals for studies in the U.S. AID would want to locate the workshops in countries which are major contributors of participant trainees in agriculture, or in countries that could serve a wider region. Also, the workshops would not be topical or thematic, but disciplinary in focus; and they should only be mounted around major fields of study. Workshops in general agronomy, animal sciences and, perhaps, agricultural economics and rural sociology would most likely satisfy this criterion.

Workshops would run for the better part of three months; however, only a selected number of participants would remain in them for their full term. The workshops would be divided into phases, with participants who graduate successfully from the first phase being invited to go on to the second, and so forth. The phasing of the workshops, and the whole sorting and selection process, must be carefully and sensitively designed so that participants who do not complete the full series are not offended.

Experience with similar workshops suggests that about one qualified applicant for graduate instruction can be produced for every five workshop entrants. If 20 applicants are sought, it is estimated that three senior faculty, with some assistance, would be required to design and conduct a workshop. Total costs of this three year experiment--including salary, per diem, and transportation expenses for participating faculty--would be, therefore, about \$500,000. (There may be some direct costs of participants' attending, and these would elevate the budget somewhat. However, efforts should be made to defray such costs with local contributions to the workshop.) This is a very small sum, for the workshops will have produced 180 new students for graduate studies. With current costs per participant trainee in U.S. degree programs running about \$47,000, the experiment would have to reduce the time of each participant's study program by only 5.0 percent to fully pay for itself, and actual savings could greatly exceed that figure.

A model somewhat similar to the one proposed by this experiment is that of the Colorado Summer Institute in Economics. The major difference is that in Colorado an emphasis is placed on language training; also, the summer workshop participants have generally already been accepted

to graduate programs. A better example was successfully run by the Central Bank of Peru. It was supported by the Bank and other local institutions.

Another suggestion is to assign to a single university in each of three developing countries the role of providing technical support to missions in the human resource development field in agriculture. Cooperating universities would assist AID missions in strengthening their assessments of local training needs and planning a coherent and carefully phased human capital development program. The experiment is also designed to strengthen AID's ability to monitor and appropriately follow-up programs of participant trainees. The following specific functions might be performed by the universities:

- * Conduct studies of manpower needs in agriculture.
- * Assist AID mission staff and local institutions with assessments of the capacities of national universities to meet manpower needs.
- * Advise potential applicants for U.S. graduate studies on programs in this country and assist them in obtaining necessary information.
- * Provide guidance and guidelines, as requested, to national institutions who are selecting staff for training overseas.

* Assist AID staff and national institutions in monitoring and evaluating the experiences of participant trainees.

* Provide guidance to returning participants so that they become involved in activities which are professionally most rewarding.

The experiment would be similar to the present TSM arrangement, but would limit the range of university technical support to training and manpower development. The need for such a mechanism stems, again, from the reduction in AID in-country staff to help perform some of the important pre-training and post training functions of degree programs. This experiment should probably be conducted for no less than three years, and the estimated costs would be \$500,000. The experiment would be run in countries where large-scale training programs are under consideration, and where mission strength may have been recently weakened. Care, of course, would need to be exercised so that the universities involved do not monopolize the flow of AID participant trainees in the countries they are assisting.

One variant of the training TSM which has demonstrated high productivity in the past is the "institution-to-institution training program." Rather than working with a

single AID mission, the U.S. university in this case works with a single national university, helping it develop its staff, curricula, research and service programs. The U.S. university generally assumes major responsibility for training participants from its "sister institution." A frequently cited example of this arrangement is the long-standing Purdue University connection with the Federal University of Vicosa in Brazil.

Of course, AID should not contrive experiments to foster further institution-to-institution development, for it is the product of a long and sometimes bumpy evolutionary process which cannot be forced or easily accelerated. However, an initiative which capitalizes on existing institution-to-institution relationships might be given consideration.

Specifically, it is suggested that \$500,000 be provided five U.S. universities over a three to four year period to experiment with their respective sister institutions to design programs in which requirements for graduate degrees are partially satisfied in the U.S. and the developing country university. This experiment would help accelerate the development of graduate curricula and degree-giving in developing countries, substantially reduce the costs of the course and dissertation phases of participant training, and yet give participants many of the same benefits derived from taking a full degree in a U.S. university.

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As a practical matter, participants in a disciplinary Ph.D. program, for example, would take their first year of course work in their home country institution, but spend a second year of advanced course work in the U.S. sister institution. Some qualifying or preliminary examinations might even be taken in the U.S. institution. But subsequent years of study, and especially the dissertation, would be done back at their home university. AID financing for the experiment would facilitate the interchange of the faculties of cooperating institutions to ensure coordination of efforts. It would also permit faculty from U.S. universities to spend short periods (one to three months) in their sister institutions, teaching and counseling students, strengthening their course offerings, and generally assisting with staff, research and curriculum development.

One would like to see arrangements under this model extended to a large population of participant trainees in agriculture. In theory, there is no reason why early-stage graduate studies and dissertations could not be done generally in the home country. However, in practice it must be recognized that, for the effectiveness of the resulting program to compare favorably with a graduate program undertaken wholly in the U.S., the overseas university must have attained some maturity and its relations with cooperating

U.S. universities must be strong and collegial. Those conditions are most likely to be met where solid "institution-to-institution" arrangements have already developed.

One final proposal is made to enhance the effectiveness and reduce the costs of participant training in agriculture. Its principal purpose would be to reduce the combined costs of tuition and administration of participant trainees. To achieve these outcomes, several features are wrapped into this single experiment.

First, it is recommended that the usual lines for tuition and administration, contained in a participant's budget, be collapsed into one. At current costs, these items absorb at least 40 percent, and as much as a half of the average degree participant's budget.

Second, it is recommended that participating AID missions contract directly with U.S. universities for the training of their participants, bypassing, in the main, the present administrative apparatus of the U.S. Department of Agriculture. It should be clear that the incentives to do this would be greatest for AID where (a) one of its country missions is sending, over a period of years, a significant number of participants to a single U.S. university and (b) that university is willing to negotiate a combined

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tuition-plus-management fee which is lower than that which would otherwise have resulted from passing the same cases through the USDA, according to current procedures. It is felt that, while total costs of administration plus tuition could fall dramatically under this arrangement, net returns to universities might actually increase because the planning period and lead time provided by AID would lengthen and this would permit universities to streamline their management of participants and realize certain economies.

A third feature of this experiment is that it would place most of the costs of the pre-training phase, especially of participants' selections of U.S. universities, on the participants themselves, unless AID staff could provide some assistance. This implies the need to carefully select countries or regions for this experiment where (a) substantial participant training has already occurred, (b) information concerning U.S. universities is readily available, and/or (c) there are in-country some U.S. university personnel who could assist potential participants with orientation.

A fourth, and final, major feature of this experiment would be the continued use of some USDA administration, but at a much reduced level. It will be necessary to run some spot checks on participants to ensure that the quality of university administration is satisfactory. USDA could also be helpful in otherwise monitoring results of the experiment.

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It could have an important role in evaluating (ex post) participants' programs and following their post-study work experiences. These functions have real economies of scale associated with them and can be most appropriately assumed by a large, centrally located organization like USDA. Thus, an additional benefit of this experiment would be a more efficient division of labor between the USDA and U.S. universities in administration.

The USDA would not need to charge more than two to three percent of each participant's budget for the services described. Given the economies U.S. universities may realize in administration and tuition, this experiment could save at least 10 percent of the budgets of participant trainees.

There would be another change likely to occur, were the model eventually generalized after a period of successful experimentation. The change would involve some greater concentration of trainees in a smaller number of U.S. universities. For there would be strong incentives under the arrangements proposed here for AID to "package" and "wholesale" its participants in agriculture more aggressively. Although no one has overtly proposed greater concentration, it would be a desirable by-product of this experiment. Universities with very small populations of participant trainees, or foreign students more generally, gain very little

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from their presence and, in turn, are able to offer very little by way of special services and academic accommodations. There is such a thing as a critical mass of foreign students.

No additional costs would be associated with this experiment, and substantial savings should be realized immediately. However, the Agency should be prepared to support travel by faculty of participating universities to discuss contract terms in-country with interested AID personnel. A sum of \$150,000, set aside for this purpose, and for the evaluation of this experiment at the end of its three or four year term, would be adequate.

In addition to the six experiments and one major study just recommended, AID should support some basic data generation. There is a notable lack of data concerning flows of foreign students in agriculture to U.S. universities. Such data need to be generated, their trends analyzed, and the causes of changes in trends better understood, if policy for human capital development is to be adequately informed. This same effort should endeavor to show sources of funding for participant trainees in agriculture in order to clarify for Agency staff whether, as AID's program has declined, other donors have, in fact, been providing more or less funds for training. Also, this study would look at the degree to which AID's past programs have successfully levered funds from other sources.

SUMMARY

Proposals and Expected Areas
of Cost Reduction

	<u>Pre- training</u>	<u>Course</u>	<u>Thesis</u>	<u>Post- Training</u>
Study of Potential Economies in Participant Training in Agriculture, one year, \$250,000	X	X	X	X
1. Support of short courses in the international agricultural research centers, three years, \$1,500,000		X		
2. In-country development of short courses, four years, \$1,000,000		X		
3. Skills workshops for potential participant trainees, three years, \$500,000	X	X	X	X
4. Training TSM's, three years, \$500,000	X	X	X	X
5. Cooperative graduate degree training, four years, \$500,000		X	X	
6. Direct participant training, four years, \$150,000	X	X	X	X
Study of basic flows of trainees and sources of fund				